

A
DESCRIPTION
OF
EAST-FLORIDA,
WITH A
JOURNAL,
KEPT BY
JOHN BARTRAM *of* Philadelphia,
BOTANIST to His MAJESTY
FOR
THE FLORIDAS;
UPON

A Journey from ST. AUGUSTINE up the River ST. JOHN,
as far as the Lakes.

With EXPLANATORY BOTANICAL NOTES.

Illustrated with an accurate Map of EAST FLORIDA, and two Plans; one of
ST. AUGUSTINE, and the other of the Bay of ESPIRITU SANTO.

THE FOURTH EDITION.

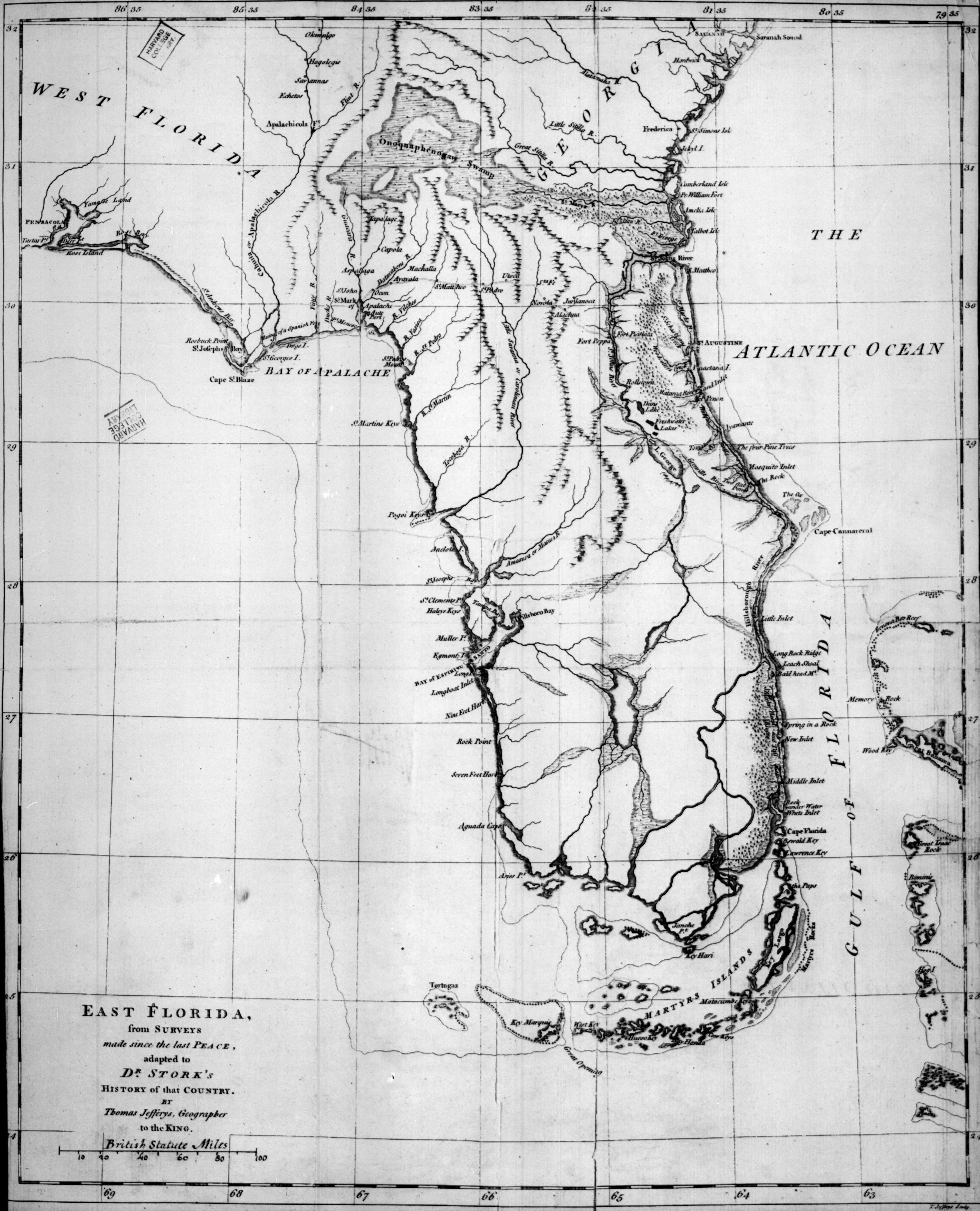
Hic Segetes, illic veniunt felicius Uvæ
Arborei Fructus alibi, atque injussa virescunt
Gramina. Nonne vides croceos ut Tmolus Odores,
India mittit Ebur, molles sua Thura Sabæi!
VIRG. GEORG.

L O N D O N:

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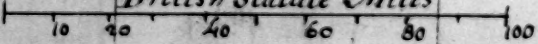
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2d. 4. 1769. with 2 hand maps.



EAST FLORIDA,
from SURVEYS
made since the last PEACE,
adapted to
D^r STORK'S
HISTORY of that COUNTRY.
BY
Thomas Jefferys, Geographer
to the KING.

British Statute Miles



DESCRIPTION
OF THE
FLORIDA
JOURNAL
BY
JOHN BARTRAM OF Philadelphia

THE FLORIDA

2

TO
THE MOST HONOURABLE
C H A R L E S
MARQUIS of ROCKINGHAM,
FIRST LORD of the TREASURY,
&c. &c. &c.

MY LORD,

AS the commercial interests of Great-Britain are weighed by your Lordship daily, in order to be promoted, and a thorough knowledge of his Majesty's foreign dominions is sought after, with a view to the public service, I flatter myself, that an account of a new colony, whereof none hath as yet been published, will have the honour of meeting with your Lordship's approbation.

During my residence in East-Florida, I endeavoured to acquire a knowledge of that country : I made myself acquainted, as far as my stay would permit, with its soil and navigable rivers, its climate and natural productions : I can assure your Lordship, my pursuit was made agreeable by the satisfactory evidences I found, both of the goodness of the soil, and the healthiness of the climate.

In

DEDICATION.

In its climate it has the advantage of South-Carolina and Georgia ; and from being nearer the sun than those colonies, will, probably, be found superior to them in the produce of rice, indigo, filk, cotton, &c. If I am partial to East-Florida, it is not for want of knowing other countries, either in Europe or America, for I have compared it with them. I even suspect myself the less of this foible, because other gentlemen, who know the country, rate the advantages to be expected from it higher than I do.

My view in publishing the following sheets, is to give Great-Britain the benefit that will arise from assisting this infant colony ; and they are inscribed to your Lordship, because whatever is intended for so good a purpose, cannot fail of meeting with your Lordship's approbation. I am, with the greatest respect,

My LORD,

Your Lordship's most humble

and most obedient servant,

WILLIAM STORK.

INTRODUCTION.

WHEN any new matter is laid before the public, there is no doubt but its reception will always depend not only upon the real merit of what is proposed, but also upon the prepossessions already entertained upon the subject. The author of the following account of East-Florida, cannot but be sensible, how much his design, to make the nation acquainted with that country, hath been discouraged, by the prejudices prevailing against it. The real truth is, that the peninsula of Florida is a country very little known in Europe: even the Spaniards, who from indolence, and a fear of the Indians, seldom ventured beyond the lines of St. Augustine, made themselves but little acquainted with it. Its broad sandy beach has a disadvantageous appearance to ships sailing near the coast; and mariners have for this reason, frequently represented it as barren and useless. The several concurrent accounts of the unhealthiness and infertility of West-Florida, whether true or false, have had no little effect in creating an opinion, that the whole of Florida ceded to Great-Britain, is little better than a sandy desert. Prejudices once entertained, cannot easily be overcome; the lights necessary to remove them must be strong in order to be convincing.

My design is not only to draw the attention of administration to an object of great national importance; but also to point out to men of sense and enterprise, whose fortunes will not enable them to live

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comfortably

comfortably in England, the advantage they may derive from becoming proprietors of lands, by gift of the crown in East-Florida, where the climate is much better, and the productions nearly as valuable as in the islands of the West-Indies.

The importance of East-Florida, in a national view, depends upon two grounds; first, its fertility in producing such articles of commerce as will be beneficial to Great-Britain; secondly, upon its convenience, from its situation and other circumstances, to carry on a beneficial commerce with the Spanish settlements in time of peace; and to intercept their trade, and cut off their communication with Europe in time of war.

As to the fertility of East-Florida; without entering into the detail of its productions, which shall be reserved for the body of the work; I here propose only to make some general remarks with reference to this head; and must intreat the reader for a while to suspend his opinion, and not take it implicitly for granted, that that part of North-America, at present so little known, which lies to the south of Georgia, differs in its soil from the rest of the continent; or is unfit for such productions, as correspond with the nature of its climate. North as well as South America, may be divided into three regions; the Flats, the Highlands, and the Mountains. The Flats, in the Indian language termed Ahkynt, is the territory lying between the eastern coast, and the falls of the great rivers that run into the Atlantick ocean, in extent generally taken about ninety miles. The highlands, in Indian called Ahkontshuck, begin at those falls, and terminate at the foot of the great ridge of mountains that runs through the midst of that continent north-east, and south-west, called by the Spaniards Apalatei, from the nation Apalakin, and by the Indians Pæmotinck: they lie nearly parallel to the Atlantick sea coast. The flats from the rankness

rankness of the soil, the salt moisture of the air, the daily discovery of fish shells three fathom deep in the earth, bear strong marks of having been at one time covered with the sea, and a firm persuasion of it prevails amongst the Indians ; for which they refer to the tradition of their ancestors. The highlands in the very same latitudes with the flat country, are notwithstanding happier in a more healthy and temperate air, and in the opinion of the celebrated William Penn, have no less advantage in the fertility of their soil.

The Apalachian mountains, called in Indian Pæmotinck, or the origin of the Indians, are for the most part barren rocks, and deserted by all living creatures but bears and other wild beasts that cave in the hollow cliffs.

In North-America we find every sort of climate ; and in one part or other it is capable of yielding every valuable production. If it be asked, which part of that continent is the best, the question is too general to receive a determinate answer. We know indeed, that the soil of Newfoundland is, from the nature of the climate, incapable of yielding a produce equally valuable with cotton, indigo, or sugar. We may go further, and for the European trade, without difficulty, prefer the climate of Carolina and Georgia, to that of Canada or Nova-Scotia.

If we take a view of America, or even of the globe of the earth, we shall find the northern climates, which are often agreeable to live in, are the least adapted to the purposes of trade with Europe ; where the climate being of the same nature, on course yields similar productions. We shall see this more clearly by comparing the produce of the two small islands of St. Christopher, and Rhode-Island, both of them well settled,

and well cultivated ; both fertile, and almost of the same size ; yet in a commercial light no two places can be more different, the exports of St. Kit's are of very great value ; the exports of Rhode-Island are too inconsiderable to be mentioned. If the cause of this difference is sought after, it need only be observed, that Rhode-Island lies in the temperate latitude of 41, and that St. Kit's is within 17 degrees of the line. The conveniences of life are to be had in Rhode-Island, but if we are in search of articles of commerce, we must approach nearer to the West-Indies.

Upon the continent of America we cannot but be sensible that the southern colonies, though the latest settled, and therefore the farthest from the best state of cultivation, yield more valuable articles of trade, and (the number of inhabitants considered) greatly surpass the northern in the amount of their exports.

The colony of Georgia, from being a barrier province, from the ill-judged regulations on its first establishment, and other circumstances, had, when first settled, many disadvantages to struggle with ; yet the rapid increase lately made in its exports, affords sufficient proof that its climate is adapted to the purposes, both of European and American commerce ; and fit for rice, silk, and indigo ; which, sugar excepted, constitute the most valuable articles of trade.

In New-England, to say nothing of Canada and Nova-Scotia, where the winters are still more severe, the earth is covered with snow at least three months in the year ; the rigour of the climate puts an end to all vegetation ; the beasts of the field require to be sheltered from the inclemencies of the weather, and to be sustained with fodder, laid by in summer : even the laborious hand of industry is in this season of the year often destitute of all useful employment.

During

During the same period, the vegetation in Carolina and Georgia affords sufficient food for cattle ; no shelter is required for them ; the lakes and rivers are not frozen, and the garden vegetables contribute greatly to make a plenty of sustenance.

If we carry the eye along the eastern coast of North-America, from Hudson's-bay, down to the island of Cuba ; which lies a little to the south of the Cape of Florida, as we draw nearer the sun, the commercial productions not only abound more, but are found to be of a superior quality, and of more intrinsic worth. It is not only in sugar and indigo, that Cuba surpasses all the English settlements, lying to the north, but in every other production, that depends upon the powers of the sun. And in this respect, as well as in the salubrity of the air, East-Florida hath the advantage of Carolina and Georgia, as much as Cuba hath the advantage of East-Florida.

I have dwelt the longer on this comparison of northern with the southern colonies, in order that by shewing the real superiority of the latter in a commercial view no surprize may be entertained at the favourable representation given of the peninsula of Florida.

In order to judge of the produce to be expected from a fresh soil, well supplied with navigable rivers, in the climate of East-Florida, let us consider the rest of the globe, lying in the same latitudes, and we find Egypt, Arabia Felix, Persia, India, China, and Japan ; of which China is the only country, that has a tolerable government ; yet it must be acknowledged, that all of them are, or have been, famous for their riches and fertility. When we speak, as it were, proverbially, of the riches of the east, we allude to the very countries that have been mentioned.

As to the situation of Florida, with regard to the Spanish trade, it need only be observed, that the Spaniards are too lazy to supply themselves even with necessaries; that the Havannah, one of their richest ports, is only a few days sail from St. Augustine, and of course, is much nearer to the capes of Florida, which lie directly opposite to that celebrated harbour. The trade winds that perpetually blow within the tropics, from east to west, render the communication betwixt the Havannah and St. Augustine always easy, as they lie, in respect to each other, north and south.

As to the situation of East-Florida, for the purpose of surprizing the Spanish ships in time of war: the trade winds oblige the register ships and galleons from Carthagena, Porto-Bello, and Vera Cruz, the rich cargoes whereof are very well known, to return to Europe through the gulph of Florida, and to call at the port of the Havannah, in their way to Old Spain. The strong current that constantly runs westward, between the Bahama islands and Cuba, right into the gulph of Mexico, as well as the trade winds, blowing the same way, greatly embarrass the Spanish register ships that encounter both in their passage homewards from the Spanish main, and are thereby unavoidably exposed to the enterprizes of an enemy. When vessels, in their way to Europe, double the capes of Florida, they are under a necessity of keeping near to the shore, in order to take the benefit of the eddies and land breezes. When they have got round the capes, and fall into the stream of the gulph of Florida, they are carried forcibly to the northwards by the strength of that noted current. A few ships of force may easily take every loaded vessel on its way through this confined strait, which is about 60 miles wide, and somewhat more than 200 miles long; and affords to ships passing through it, but little choice in the line of their navigation.

It is easy to discern the utility of a fortified harbour at the capes ; it would contribute not a little, to secure the command of the gulph of Mexico, as well as Florida ; the importance whereof, I need not enlarge upon.

I have insensibly run to a greater length in this introduction than I intended. In estimating the value of East-Florida, I have accounted upon what it will be when settled, rather than upon what it now is. Its climate and productions will make it a favourite colony, and its neighbourhood to the Spanish dominions an important one.

I will conclude this introduction with laying before the reader part of Governor Grant's proclamation published at St. Augustine the 7th of October, 1763, because this proclamation may be considered as the compendium or short contents of the account I have given of the country.

Extract of a proclamation, by his excellency James Grant, Esq;
governor of East-Florida.

“ And whereas it may greatly contribute to the speedy settling of this his majesty's province, to inform all persons of the healthiness, soil, and productions thereof ; I do, in this proclamation further publish, and make known, that the former inhabitants lived to great ages ; his majesty's troops, since their taking possession of it, have enjoyed an uninterrupted state of good health : fevers, which are so common during the autumn, in other parts of America, are unknown here. The winter is so remarkably temperate, that vegetables of all kinds are raised during that season without any art.

The

The soil on the coast is in general sandy, but productive with proper cultivation. The lands are rich and fertile in the interior parts of the province, and on the sides of the rivers, which are numerous. Fruits and grains may be raised with little labour : the late inhabitants had often two crops of Indian corn in one year, and the breeder here will be under no necessity of laying up fodder for the winter ; for there is at all times sufficient quantity of pasture to maintain his cattle.

The indigo plant remains unhurt for several years, and may be cut four times in a season. Wild indigo is found here in great abundance ; which, with proper cultivation, is esteemed in the French islands to be the best.

From the great luxuriancy of all the West-Indian weeds, found in the southern part of this province, it is not to be doubted, but that all the fruits and productions of the West-Indies may be raised here ; though either from want of industry of the late inhabitants, or from the frequent interruptions they met with from the Indians, no improvements of that kind were ever attempted. Oranges, limes, lemons, and other fruits, grow spontaneously over the country.

This province abounds with mahogany, and all kind of lumber, fit for transportation, or ship building ; and the conveyance of the commodities, or productions hereof, will be attended with little expence, as there is water-carriage every where."

A
DESCRIPTION
OF
EAST-FLORIDA.

C H A P. I.
CLIMATE and SITUATION.

THE situation of East-Florida, upon the Globe of the Earth will be the best understood by having recourse to a map of America, where its northern boundary is seen in latitude 30. 47. at St. Mary's River, and its southern point in latitude 25, where the peninsula terminates in the gulph of Mexico, by which it is also bounded on the west, and by the atlantick ocean, and the strait of Florida on the east. Its length from north to south is 350 miles, its breadth is various, and diminishes from 240 miles at St. Mary's River, to less than half that diameter when you approach the cape; the whole contents amounting to upwards of 12 millions of acres, which is about the size of Ireland.

The situation of East-Florida, in the southern part of the temperate zone, between two seas, the great atlantick ocean, and the bay of Mexico, appears

to be the natural cause of the goodness of its climate ; for as on the one hand, a southern latitude exempts it from all the inconveniences of extreme cold, so a maritime situation, and its lying within the course of the sea-breeze that daily blows across the peninsula, is the cause that the heat of the sun in summer is mitigated by the freshness of the sea air, which in a hot climate is much more salutary than the air of an extended continent.

All America to the north of the river Potomak, is greatly incommoded by the severities of the weather for two or three months in the winter : In East-Florida there is indeed a change of the seasons, but it is a moderate one ; in November and December many trees lose their leaves, vegetation goes on slowly, and the winter is perceived. In the northern parts of the province a frost happened last winter ; which injured the sugar-canes at Augustine, but did no hurt to those planted at the Musquito inlet, about fifty miles to the southward. I do not find upon enquiry, that snow has ever been seen there ; the winters are so mild, that the Spaniards at Augustine had neither chimneys in their houses, nor glass windows. The tender plants of the West Indies usually remain unhurt during the winter, in the gardens of St. Augustine.

The fogs and dark gloomy weather, so common in England, are unknown in this country. At the equinoxes, especially the autumnal, the rains fall heavily, every day, betwixt eleven o'clock in the morning, and four in the afternoon, for some weeks together ; when a shower is over, the sky does not continue cloudy, but clears up, and the sun appears again : the mildness of the seasons, and purity of the air, are probably the cause of the healthiness of this country.

By the best accounts of the first discovery of East-Florida, it appears to have been nearly as full of inhabitants as Peru and Mexico ; and these accounts are in some measure verified, by the frequent remains of Indian towns throughout the peninsula. The natives are described to have been larger, and of a stronger make than the Mexico Indians.

When the Spaniards quitted Augustine, many of them were of a great age, some above ninety : the Spanish women were observed to be more prolific there than in Old Spain, where they are generally accounted but indifferent breeders.

The

The inhabitants of the Spanish settlements in America consider East-Florida, with respect to its healthiness, in the same light that we do the south of France ; and they looked upon Augustine as the Montpelier of America : the Spaniards, from the Havannah and elsewhere, have frequently resorted thither for the benefit of their health.

Since it came into the hands of Great Britain, many gentlemen have experienced the happy effects of its climate, by the recovery of their health.

It is an indisputable fact, which can be proved by the monthly returns of the ninth regiment, in garrison in East-Florida, that it did not lose one single man by natural death in the space of 20 months ; and as that regiment performed duty in the several forts, at different distances from Augustine, St. Mark's d'Apalachie at 200 miles, Piccolata 30, Matanzas 20, it proves in the most satisfactory manner, that the climate is healthy in the different parts of the province.

The peninsula of Florida is not broad, and as it lies betwixt two seas, the air is oftener refreshed with rains, than on the continent : The entire absence of the sun for eleven hours makes the dews heavy, and gives the earth time to cool ; so that the nights in summer are less sultry here than in the northern latitude, where the sun shines upon the earth for seventeen or eighteen hours out of the twenty-four. The heat, which in South-Carolina, and in the southern part of Europe, is sometimes intolerable for want of wind, is here alleviated by a sea-breeze in the day-time, and a land-wind at night. It is only in and near the tropicks that the sea and land-breezes are at all uniform or to be depended upon.

The white people work in the fields in the heat of the day without prejudice to their health ; gentlemen frequently ride out for pleasure in the middle of the day ; and governor Grant is regularly on horseback every day from eleven to three o'clock in the afternoon.

C H A P. II.

S O I L.

A COUNTRY so extensive as East-Florida, cannot but have a great variety of soil, the sandy is most prevalent, especially towards the sea.

The sea coast of East-Florida is a low flat country, intersected by a great number of rivers, very like Holland, or Surinam in America. It continues flat for about 40 miles from the coast, and then grows a little hilly, and in some parts rocky.

Florida differs materially from the rest of America in this, that almost all the continent besides is covered with a thick forest; whereas the trees in Florida are at a distance from one another, and being clear of under wood, have more the appearance of an open grove than a forest.

The rains and heavy dews create such a luxuriant vegetation, that the surface of the earth, notwithstanding the heat of the sun, is never without a good verdure.

There are frequently four strata or beds of earth found in East-Florida: the uppermost a thin mould of earth, beneath a sand half a yard or more in depth; below that a strong white clay, resembling the marle in England, proper for manure to the sandy land, this stratum is commonly four feet thick; the fourth layer is a rock composed of a congeries of broken sea-shells resembling the bottom of the sea. The fertility of Florida is much ascribed to these two strata of clay and rock, which contribute to keep the sand moist, and prevent the rains from sinking away from the roots of the plants and trees.

In the interior parts the trees are larger, the grass higher, and the cattle bigger, than toward the sea, especially in that part of the peninsula which lies betwixt the river St. Juan's, and the fort of St. Mark d'Apalachie, which is about 150 miles to the north-west of this river.

To

To take a view of the eastern shore of Florida, beginning from the north : we see the river St. Mary's, lying in the 30th degree 47' latitude, it is a mile broad at its mouth, where Amelia island is situated ; it has five fathom water upon the bar at low water, is navigable above 60 miles, where it has three fathom water. It is the best harbour from the capes of Virginia to those of Florida ; it takes its rise out of the great swamp*, called by the Indians Owa-qua-phe no-gaw. The lands upon the banks of this river are the richest in the northern parts of the province ; the abundance of cane-swamps are a strong indication of the goodness of the soil. The best trees that grow in the swamps on this river, are the live oak and cedar, very useful for ship-building ; they are here of an extraordinary size.

St. Juan's, now called St. John's river, lies 40 miles southward of St. Mary's ; the tract of land between them consists of plains covered with pines ; these plains are called in America, pine-barrens, or highlands, in contradistinction to the swamps and lowlands.

We find a striking difference betwixt the pine-barrens of Florida, and those to the northwards ; the pine-barrens to the northwards, from the poverty of the soil, do not answer the necessary expence of clearing. The closeness of the trees hinders the grass from growing under them, so that large tracts of land are no further useful than to make pitch and tar : whereas in Florida, by a difference in the climate, the trees standing at a greater distance, the pine-barrens afford tolerable good grass.

In passing through this part of Florida, we find the plains frequently divided by the swamps above-mentioned, which being full of forest-trees diversify the aspect of the country, with so many thick woods.

The swamps are from half a mile to a mile broad, and from two to five miles long ; the depth of the water is various, but is such that in travelling they are usually rode through without much difficulty.

* The word swamp is peculiar to America ; it there signifies a tract of land that is sould and good, but by lying low is covered with water. All the forest trees (pine excepted) thrive best in the swamps, where the soil is always rich ; and when cleared and drained, is proper for the growth of rice, hemp, and indigo.

From

From St. John's river southwards to St. Augustine is 45 miles, the country is much the same as has been just described, but not quite so good, the swamps being neither so frequent nor so large.

Before we speak of St. Augustine, it will be proper to take some notice of the river St. John's, the principal river of the province; and, in point of utility and beauty, and not inferior to any in America. The source of this river, though not yet discovered, is in all probability near the cape of Florida; it passes through some small lakes, the lowest of them is called by the Indians the great lake; it is 20 miles long, and 15 broad, has eight feet water; there are several islands in it, and it is now called Lake George; it is 170 miles from the mouth of the river. In going down from hence the first European habitation is Mr. Spalding's, an Indian trader's store-house: 15 miles lower is Mr. Rolle's settlement; the whole distance from the lake to Mr. Rolle's is 45 miles, and the country between, the best discovered yet upon the river. The tropical fruits and plants are found in great abundance, and afford the strongest evidence that both the soil and climate are fit for sugar, cotton, indigo, and other West-India productions. Mr. Rolle's plantation is well situated on the eastern banks, and is the most considerable upon this river, which is here very narrow; 25 miles from Mr. Rolle's, downward, is Piccola, a small fort with a garrison, the river is there three miles broad.

The bar at low water is nine feet deep, its channel up to lake George is much deeper; the breadth is very unequal, from a quarter of a mile to three miles. The tide rises at the bar from five to eight feet, and two feet at Mr. Rolle's, though 125 miles from the sea. There are neither shallows nor rapids in the river; the current is very gentle, and vessels may go up the river almost as easy as down, for 200 miles; there are few rivers more commodious for navigation.

Near the mouth of St. John's river, a small river called St. Mark's takes its rise, running almost from north to south, parallel with the sea, till it empties itself into the harbour of St. Augustine; there are many salt marshes on both sides of the river, almost up to its source; these marshes may be easily

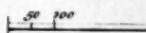


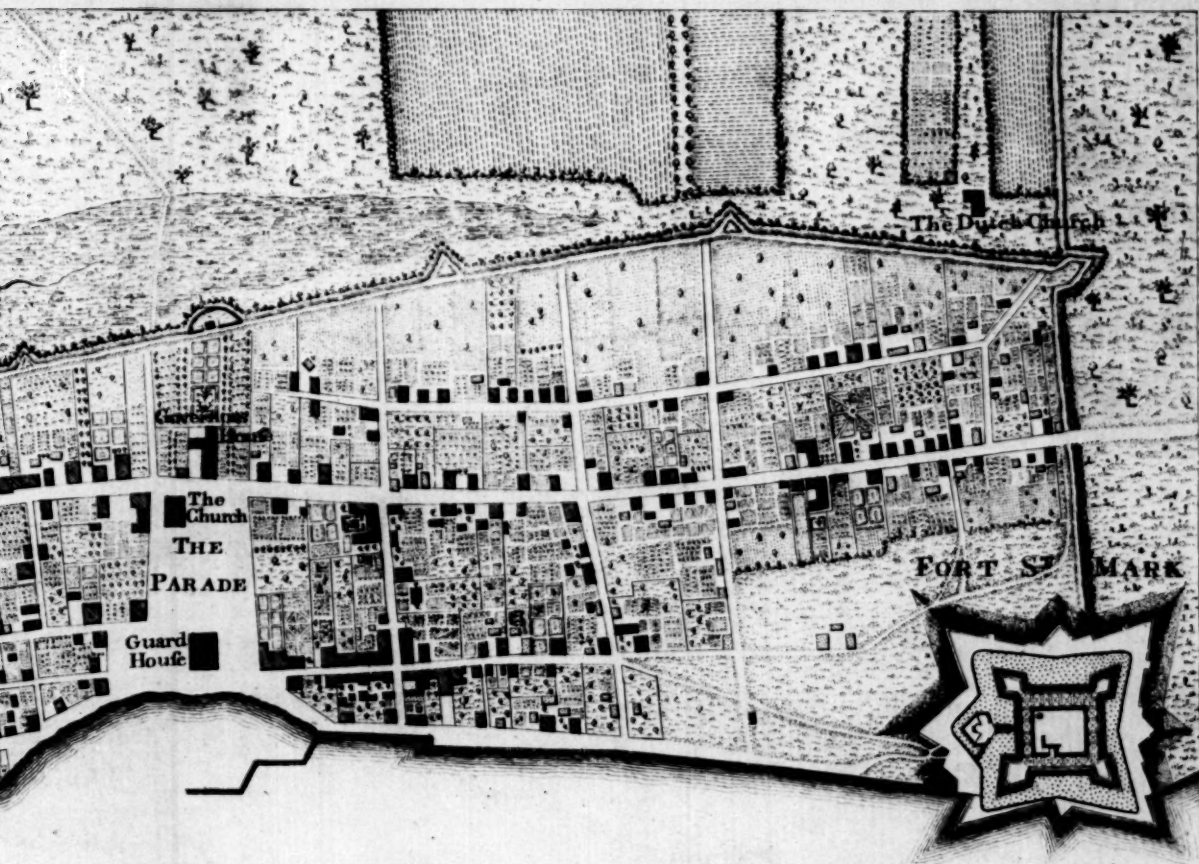
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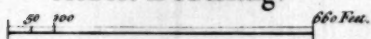
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ST. AUGUSTINE
the CAPITAL of
 EAST FLORIDA.

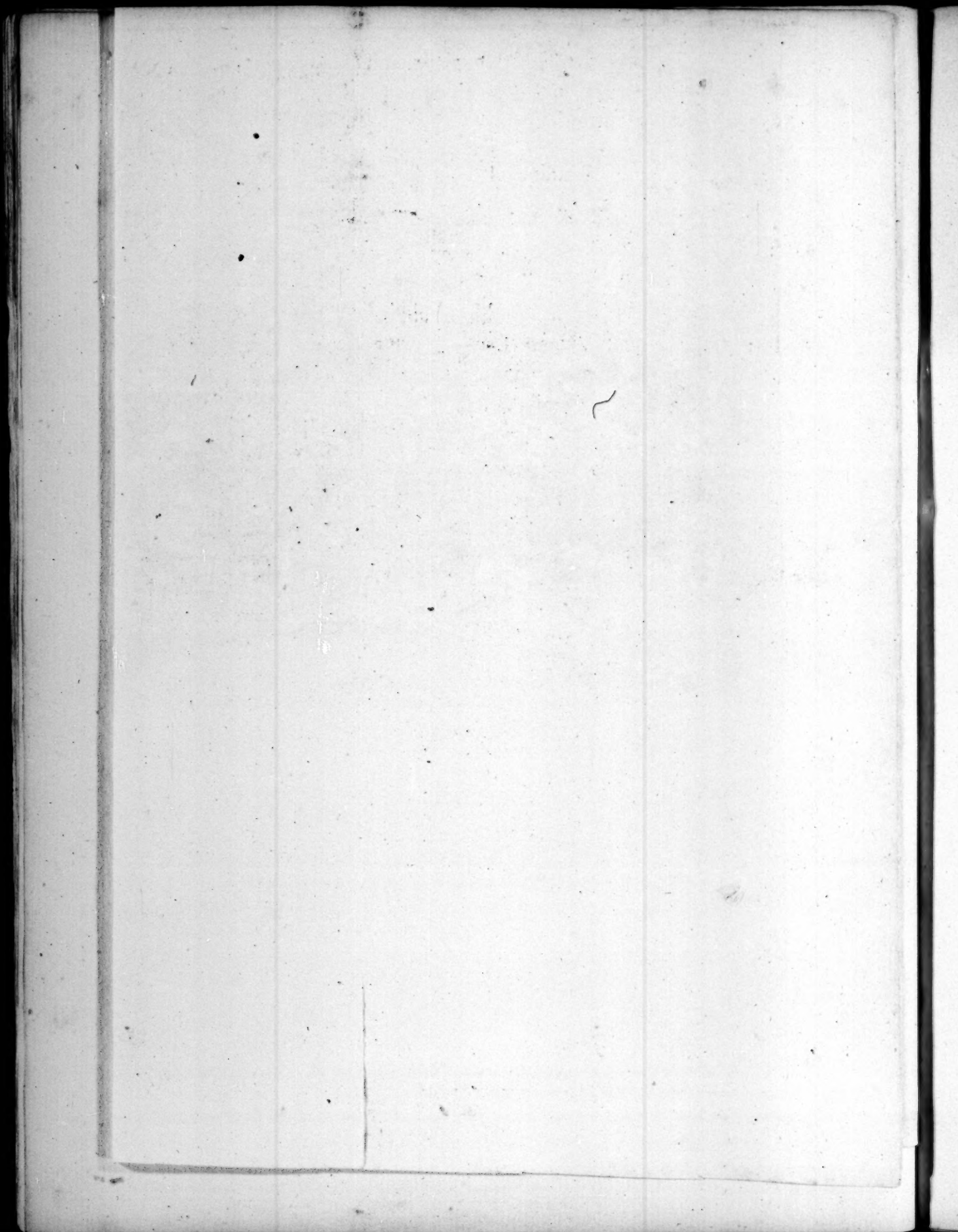
SCALE,
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defended from the tides, and will make very rich lands, either for rice, indigo, or hemp.

We come now to the harbour of St. Augustine, which would be one of the best in America, were it not for its bar, which will not admit vessels of great burden, as it has but eight feet water*. The bar is surrounded by breakers, that have a formidable appearance when you enter it, they are not so dangerous as they appear to be, on account of the bar being very short. There is a road on the north side of the bar, with good anchorage, for such ships as draw too much water to go into the harbour.

A neck of the main land to the north, and a point of Anastasia island to the south, form the entrance of the port. Opposite to the entrance lies Fort St. Mark's, so called from the river it lies upon; this fort is a regular quadrangle, with four bastions, a ditch fifty feet wide, with a covert-way, places of arms, and a glacis: the entrance of the gate is defended by a ravelin; it is case-mated all round, and bomb-proof: the works are entirely of hewn stone, and being finished according to the modern taste of military architecture, it makes a very handsome appearance, and may be justly deemed the prettiest fort in the king's dominions.

The town of St. Augustine is situated near the glacis of the fort, on the west side of the harbour; it is an oblong square, the streets are regularly laid out, and intersect each other at right angles, they are built narrow on purpose to afford shade. The town is above half a mile in length, regularly fortified with bastions, half-bastions, and a ditch; besides these works it has another sort of fortification, very singular, but well adapted against the Indians, an enemy the Spaniards had most to fear: it consists of several rows of palmetto trees, planted very close along the ditch, up to the parapet;

* It is necessary to observe, that the depth of the bars of the harbours on the eastern shore of East-Florida, cannot be exactly ascertained, as the tides there are chiefly regulated by the winds; a strong westerly wind will make but six feet, and an easterly wind 12 feet water upon the bar of St. Augustine, at low water.

their pointed leaves are so many *chevaux de frize*, that make it entirely impenetrable; the two southern bastions are built of stone. In the middle of the town is a spacious square called the parade, open towards the harbour: at the bottom of this square is the governor's house, the apartments of which are spacious and suited to the climate, with high windows, a balcony in front, and galleries on both sides; to the back part of the house is joined a tower, called in America a look-out, from which there is an extensive prospect towards the sea, as well as inland. There are two churches within the walls of the town, the parish church a plain building, and another belonging to the convent of Franciscan friars, which is converted into barracks for the garrison. The houses are built of free-stone, commonly two stories high, two rooms upon a floor, with large windows and balconies: before the entry of most of the houses runs a portico of stone arches; the roofs are commonly flat. The Spaniards consulted conveniency more than taste in their buildings; the number of houses in the town, and within the lines, when the Spaniards left it, was above 900; many of them, especially in the suburbs, being built of wood, are now gone to decay. The inhabitants were of all colours, whites, negroes, mulattoes, Indians, &c. at the evacuation of St. Augustine, amounted to 5700, including the garrison of 2500 men. Half a mile from the town, to the west, is a line with a broad ditch and bastions, running from St. Sebastian's creek to St. Mark's river: A mile further is another fortified line, with some redoubts, forming a second communication between a *stoccata* fort upon St. Sebastian's river, and fort Mosa upon the river St. Mark's.

Within the first line, near the town, was a small settlement of Germans, who had a church of their own. Upon St. Mark's river, within the same line, was also an Indian town, with a church built of free-stone; what is very remarkable, the steeple is of good workmanship and taste, though formerly built by the Indians. The governor has given the lands belonging to this township, as glebe-lands to the parish church.

The land about Augustine, though in appearance the worst in the province, is yet far from being unfruitful; it will produce two crops of Indian corn a year; the garden vegetables are in great perfection; the orange and lemon trees

trees grow here, without cultivation, to a larger size, and produce better fruit than in Spain or Portugal.

Opposite to the town of St. Augustine, lies the island of Anastasia; this island is about 25 miles in length, and divided from the main land by a narrow channel, called Matanza river, though in reality a channel of the sea: the soil of the island is but indifferent; at present it is used for pasturage; but having some creeks and swamps in several parts, may in time be cultivated to advantage.

- At the north end of this island is a watch-tower, or look-out, built of white stone, which serves also as a land-mark for vessels at sea. At the approach of any vessels, signals are made from this tower to the fort; a few soldiers do duty there on that account. In this island there is an excellent quarry of whitish free-stone, of which the fort and houses in Augustine are built: stone quarries are very rare in the southern parts of America, which makes this of Anastasia the more valuable; the stone is manifestly a concretion of small shells petrefied; it is soft under ground, but becomes very hard and durable by being exposed to the air.

Going southwards from Augustine, at the distance of a mile and a half, we come to St. Sebastian's creek; this stream rises five miles north of Augustine, and after making a sweep to the west, empties itself into the sea at this place: near the mouth of this creek are extensive salt-water marshes, overflowed at high tides, which may be easily taken in; higher inland are fine swamps.

We come next to Wood-cutters creek, which rises 15 miles north of Augustine, and after describing a semicircle to the west, much like Sebastian's creek, but with a larger sweep, empties itself into the sea, six miles below Augustine; the lands upon this creek consist of very good swamps and highlands.

At the Matanzas, 15 miles south of Wood-cutters creek, is a small fort and harbour, fit for coasting vessels. The harbour is opposite the south point of Anastasia island, where there is a second watch-tower. The soil be-

tween Wood-cutters creek and the Matanzas is tolerably good, on account of several creeks and swamps.

From the Matanzas we come to Halifax river, which, like St. Mark's above mentioned, runs parallel to the sea, and is separated from it only by a sandy beach, in some parts a mile, in others two miles broad. This beach or bank seems to be formed by the sands; which, either by hurricanes, or in a course of ages, have been washed up by the sea. The source of this river, though certainly not very far from St. John's river, is not as yet well ascertained: before it reaches Musquito inlet, Tomoko river falls into it; this river runs from west to east; from this river to St. John's is only four miles land-carriage.

From the Matanzas to Musquito inlet is 40 miles: at this place, Hillsborough river, flowing from the south, and Halifax river from the north, meet, and are both discharged into the sea: the bar of this harbour has eight feet at low water.

I do not know any country besides East-Florida, where the rivers have been observed to run parallel to the sea, or where two streams, as those last mentioned, meet each other from direct opposite quarters, which is still more remarkable, where two rivers, as the Halifax and St. John's, nearly parallel to each other, and at no great distance, flow contrary ways, the stream of the former running to the south, and that of the latter to the north.

About Musquito inlet the country is low, and chiefly salt-marsh; the highlands are covered with the cabbage and papaw-tree, and various tropical plants, which shew that West-India commodities may be raised here. The western banks of Halifax river contain a great deal of excellent land; the many orange groves, (which denote former Spanish settlements) and the frequent remains of Indian towns, shew that they have been once well inhabited. We are as yet unacquainted with the sources of most of the rivers in East-Florida, and particularly that of Hillsborough river; it is generally believed to have a communication with an Indian inlet, called by the Spaniards Rio Days, 60 miles to the south, where there is such another harbour as Musquito, with eight feet water; it is said to communicate with St. John's river.

Mr.

Mr. De Brahm, the surveyor general of the southern district of America, having transmitted to the board of trade some observations made by him in the course of his survey of the eastern coast of the peninsula, I have subjoined a few of them, as they are the only hints to be depended upon, relative to the southern part of the province.

In LATITUDE 27,

The mangrove trees are straighter, higher, and thicker, than in Musquito Bay.

The plantable land is scarce, except the mangrove swamp for the cultivation of Barilla.

Little River affords plenty of fish, especially Jew-fish and Bass; the trees and shrubs on the profitable corn and cotton land, are the cabbage tree, the arboreous grape vine, and spice bark trees, the hiccra, plumb, and papao.

The west shore of Hillsborough river, is chiefly pine land to the southward, and mangrove to the northward.

From latitude 26, 40, to 27, there is a branch of Hillsborough river terminating in fresh water marsh; the principal river departing south-westwards.

The sea bank contains but indifferent high plantable land here and there in spots, the mangrove swamp lands between the sea bank and branch of the river, consist of 4,693 acres, and the fresh water marsh land, of 9,386 acres.

As the mangrove swamp is always salt, or very brackish, but exceedingly rich, it will do for the cultivation of the Barilla; which plant requires a very brackish soil, no doubt in some years after having been improved by the Barilla, land may become fit for other improvements.

From latitude 26, 20, to 26, 40, is the head of Sharkhead river, entirely fresh water, running in fresh water marshes, by which it is bounded on both sides with 24,300 acres, all good plantable land, fit either for rice, indigo, or sugar canes.

About 950 acres of land covered with live oak, papao, and grape vines, on a rocky foundation covered with a rich black soil, are situated on the northernmost fork of the river; the strip of land between the sea and the river consisting of much implantable and few plantable lands.

The west side of this marsh and river is bounded chiefly with barren sand-hills, on which are scattered oak-shrubs and other bushes, and scarcely any land calculated for producing provision, but may do in time for the cultivation of the Opuntia plant.

From latitude 26 to 26, 20, we observe part of Sharkhead, and part of Sharktail rivers.

The cape and sea-coast to the eastward of the river, consist of swamp and highland, the latter not exceeding 2,800 acres, in coarse reddish land, containing much moisture, whose luxurious plants are the pomegranate, the arboreous grape vine, the Chicafau plumb, the opuntia, spice trees, and variety of unknown shrubs; the soil is as rich as dung itself, producing mangrove between 50 and 60 feet high, of whose crimson bark it is said the Spaniards make their red carduan.

The main on the west of Cape River, appears to be all high land, and is chiefly covered with cedar, oak, mulberry, and gum.

In latitude 25, 35, the main upon a due west line is a mile across, and there appears a river 4 miles over, which comes either from Tampa bay, St. John's river, or is the mouth of Hillsborough river, which in latitude 26, 50, takes a south-western departure.

No fish is in the white waters round the capes, at least there was none May the 13th and 29th, nor is any other animal species there, except sea birds, and a tract of only one bear was observed.

No sign of any winter effect is visible, nor any shrub or tree species, of those in the northern climate, nor is there any intermission in the vegetation, of which I had a full proof by the pomegranate, of which the trees are full of blossoms, with half ripe, and full ripe fruit.

The

The heat would be intolerable, if the trade winds did not afford an agreeable temperature of air. Black amber is on this shore in great quantity.

From lat. 25, 40, to 26, is the source of Sharktail and Middle Rivers, both fresh water, also the head of Cape River. All those rivers are supplied with, and situated in fresh water marshes, containing 37,961 acres good rice land, and interspersed with a few live oak, knowls of good plantable corn and indigo land.

The plantable land on the main is commonly covered with live oak; hickory and mulberry trees are in spots, and the remainder consists of pine land of the best kind, producing smooth bark yellow pine, the very choice for timber.

As the climate is mild, the marsh land may do either for rice, indigo, or sugar canes, the highlands for cotton, hemp, corn, and also indigo, the best method of disposing of those parts will be to survey them in large tracts from the sea-coast west into the main, and others behind them from the main to the lakes and rivers which lie to the westward.

CHAP. III.

NATURAL PRODUCTIONS.

HAVING already taken notice of the soil and climate, upon which all vegetation depends, I shall now proceed to the vegetable productions of East-Florida.

In no one part of the British dominions is there found so great a variety of trees, plants and shrubs, as in East-Florida; which, I suppose, is entirely owing to the temperature of the climate, in which the productions of the northern and southern latitudes seem to flourish together. Without attempting to enumerate all the forest-trees, I shall only take notice of such as are most useful.

The:

The white pine grows to a considerable size, and is fit for masts, planks, and other timber for house-building.

The red pine is a heavy wood, full of resin, and most fit for pitch and tar; its bark is of great use for tanning.

The spruce fir here is quite a different tree from that to the northward, but answers the same end for making the spruce beer. These different sorts of fir demand a sandy soil, that has a clay, or other strong earth beneath it.

The white cedar: of this tree are made boards, shingles, clapboards, and staves for dry casks.

The red cedar is used for posts and boards, the trunk is seldom above 14 feet high, and the limbs are usually crooked, and very proper for ship-building.

The cypress tree grows to a greater size here than to the northward; and being larger than any other tree, is used for making canoes.

The live oak (so called from being an evergreen) is tougher, and of a better grain than the English oak, and is highly esteemed for ship-building.

The chefnut oak, very little known in other parts of America, is very common in Florida. Its leaf is like that of a horse-chefnut, the acorn it bears is two inches long, and in taste like a chefnut: it affords excellent mast for hogs, and is an exceeding good timber.

Mahagony grows only in the southern and interior parts of the peninsula; it is in size and quality inferior to the Jamaica, but good enough to become an article of trade: the wood-cutters from Providence, one of the Bahama islands, come to East-Florida to cut mahagony, and carry it off clandestinely.

Red bays: this tree seems a bastard mahagony, and is not yet known in Europe; it may come into repute in time, when the best of Mahagony is become still more scarce.

The

The walnut, and hickory (which is a species of walnut) are so common, that they, with the chefnut-tree, though beautiful woods, are ordinarily used for firewood : They afford good mast for hogs.

Black cherry-tree, is a beautiful wood, the tree bigger than in Europe, the fruit small and of little use.

Maple : its wood is of a fine variegated grain, fit for cabinet-work. In the spring they tap it, in order to make sugar of its juice.

The ash, locust, and dog-wood trees are here in abundance, and fit for the mill, or wheelwrights work, and other ordinary purposes.

The mulberry-tree, both the red and white, are natives of the country, the forests are full of them ; they grow here to a larger size than in any other country.

The leaf of this tree being the food of the silk-worm, and the climate perfectly adapted to that tender insect, I shall, in a proper place, make some observations upon the cultivation of silk.

The fustic and brasiletto, useful as dying woods, are likewise found in East-Florida.

Sassafras of Florida was always reckoned the best in America.

Balsam-tree, of the size and with leaves like the sycamore tree in England, yields the true balsam of Tolu.

The magnolia, tulip-laurel, tupelow-tree, are all beautiful, and very ornamental in gardens and pleasure-grounds.

FRUIT-TREES.

It is observable in America, that though no country has a greater variety of valuable forest-trees, yet there are but few fruit-trees, natives of the continent, worth mentioning.

All the fruit-trees (an indifferent sort of plumb, and a small black cherry excepted) have been imported from Europe, and thrive exceeding well. In Florida, a stranger cannot help being struck with the luxuriancy of the orange tree; it is larger in size, and produces greater abundance and better flavoured fruit than in Spain or Portugal: this tree is so well adapted to the climate, that it has spread itself every where, and is so far from a rarity, that the inhabitants, not apprehensive of scarcity, frequently cut down the tree in order to gather the fruit.

The lemons, limes, citrons, pomegranates, figs, apricots, peach, &c. grow here in high perfection.

SHRUBS and PLANTS.

The myrtle-wax shrub is, without doubt, the most useful of the spontaneous growth of America; it is found in all sorts of soil, and in such plenty in East-Florida, that were there hands enough to gather the berries, they could supply all England with wax: the process of making it is very simple; they bruise the berries, boil them in water, and skim the wax off, which is naturally of a bright green colour, but may be bleached like bees-wax, and, on account of its hardness, is well adapted for candles in hot countries.

Of the opuntia, or prickly pear, are different species in East-Florida; on one sort, with a smooth leaf, is the cochineal insect, found in incredible plenty: of the fruit of the other species, is made a vegetable cochineal, which may be used in ordinary purposes instead of the true cochineal.

The vines, the fenna shrub, sarsaparilla, China-root, wild indigo, water and musk-melons, are indigenous plants of East-Florida.

I cannot omit mentioning a herb of the growth of East-Florida, of which, as yet, very little notice has been taken, notwithstanding the great advantage that may be derived from it: this herb resembles entirely our samphire in England, and is called barilla or kaly; it is the same of which in Spain the pearl-ashes are made, in the manner as the kelp in Scotland; the sea-coast, marshes,

marshes, and low-lands, overflowed at high tides, are covered with it here in Florida.

It has been a long time observed by the curious, that many of the plants both of China and Japan have been found in the same latitudes in our provinces of North-America, notwithstanding the very great difference of longitude between them. We are lately confirmed in this, by some specimens of rare plants received from West-Florida, that were collected about Pensacola, by William Clifton, Esq; Chief Justice of that province, at the request of his Majesty's agent here.

These specimens have been carefully examined by Dr. Solander, of the British Museum, and left in his possession. Among them were found some specimens of the Somo or Skimmi, of the celebrated Dr. Kämpfer, who is the only person to whom we are indebted for any account of the Japanese plants, and whose descriptions we find very accurate.

Kämpfer's Herbarium was purchased by Sir Hans Sloane, and is now to be seen in the British Museum, in which there are some specimens of this plant collected in Japan by Kämpfer himself.

This gives us great hopes of soon discovering the true tea-tree of China and Japan, so much in use among us, as now to be become one of those necessary articles of our diet, that, in order to purchase it, we are obliged to export immense sums annually in silver, and at the same time send but very little of the produce or manufactures of this country for that purpose.

This rare Japanese-tree, called Somo or Skimmi, by Kämpfer, and very fully described in his *Amanitates Exoticae*, p. 880, with a very good figure of it. Dr. Linnæus, from Kämpfer's description of it, in his *Species Plantarum*, p. 664, calls it *Illicium anisatum*; but acknowledges he never saw it. The following is an extract from Kämpfer's description of it.

He says, it is a tree that grows in their woods, and rises to the height of a cherry-tree; its leaf is like that of the *Laurus* or Bay-tree; the flower at a

D

distan

distance looks like a Narcissus, and is of a pale white colour; it consists of a double row of petals, and is about an inch and a half over. The bark is aromatic, with a little astringency; the wood is red, hard, and brittle, with very little pith, &c.

He then points out the following remarkable uses to which it is applied in that country.

The Bonzes, or Priests of China and Japan, teach the people to believe that the Gods delight in the presence of this tree, as the Bramins in India affirm of the tree they call Budumghas, and the Bannians, Bipel. For this reason they make garlands of the sprigs of it, and place bundles of the branches before their idols. They likewise lay them on the graves of the dead, as an offering to the ghosts of their pious departed friends.

The publick watchmen use the powder of this aromatic bark as fuel, for the following purpose :

They strew it regularly in small grooves, or little channels, that are formed on the surface of some ashes; this being lighted at one end, burns very gently on through certain fixed spaces; so that by the continuance of this fire they divide their time, and proclaim the hours to the public by striking a bell. This time-measurer is inclosed in a box of a foot square, the smallness of whose area is helped by the many windings of these little channels. When the fuel is lighted, they put a cover on the box, (with a hole at the top to let out the smoke,) lest it should burn unequally by the wind blowing upon it.

They believe that the powder of this bark, burnt on their altars in brazen vessels, regales their idols, with its grateful perfume.

One thing is very remarkable, that if a sprig of this tree is put into a decoction of the fish, called by the Dutch the bladder fish, (*Tetraodon ocellatus* of Linnaeus's *System of Nature*, p. 333.) which, if cleansed of its poison, is the most delicate of all fish; it will exalt its poison many degrees. This experi-
ence

ence has proved, by the more sudden death of such as have used it, prepared in this manner to destroy themselves.

I have added a list of such plants as grow both in America and Japan, with Dr. Linnæus's names, and likewise the Japan names, and references to the figures of them in *Kempfer's Amœnitates*.

Diospyros, *Lin. Spe.* 1519. a kind of Virginia Plumb. *Kempf.* 807, Karki.

Phytolacca octandra, 631, in Mexico, like Virginia poke, 828, Jamma Gobo.

Bignonia catalpa, 868, in Carolina, Georgia, &c. 843, Kawara Fifagi.

Calycanthus precox, 718, Catesby's all-spice tree of Carolina, 878, Obai Robai.

Illicium anisatum, 664, in West-Florida, 880, Somo or Skimmi.

Commelinacommunis, 60, in Virginia, 888, Skigusa.

With the blossoms of this, and rice flower, the Japanese make a fine blue paint.

Zanthoxylon clava Herculis, *Lin. Spe.* 1455, Tooth-ach tree in Carolina, 892, Seo and Sansjo.

This used in Japan for pepper and ginger.

In looking over *Kempfer's Herbarium*, we may discover several other genus's of American plants, and amongst them a specimen of a new species of *Magnolia*, collected in Japan. It is remarkable, that no Botanist has ever discovered this genus, either in Europe or Africa; but in America there are four species of this most elegant tree that are come to our knowledge, and all of them in the same latitude with Japan.

QUADRUPEDS.

There is no animal in this country better worth mentioning than the deer, which is found in great plenty; the deer-skins are, at present, the only article of exportation of East-Florida.

The buffalo is found in the savannahs, or natural meadows, in the interior parts of East-Florida: the peculiarity of the American buffalo is, that instead of hair, it is covered with a fine frizzled wool.

The bear in America is considered not as a fierce, carnivorous, but as an useful animal; it feeds in Florida upon grapes, chestnuts, acorns, &c. It is reckoned very good food, especially the bear hams, &c.

The racoon is a species of the bear, but smaller; he is of the size and colour of a badger, and is esteemed very delicate eating.

Hares are very plenty, but not bigger than an English rabbit.

I have mentioned but a few of the most useful of wild animals: (if we except the moose-deer and beaver) East Florida has all the wild animals common to America; though I must acknowledge, that the skins of those of the fur kind are of little value, the climate being too hot for them.

As to the domestic animals, they are in general the same that we have in Europe; the horned cattle as big as in England, especially in the inland parts.

The horses are of the Spanish breed, of great spirit, but little strength; they are seldom above 14 hands high: the Indians here, by mixing the Spanish breed with the Carolina, have excellent horses, both for service and beauty.

From the great plenty of fine mast, the hogs grow here to an uncommon size; and their flesh is fatter and better than in any other country.

Sheep, goats, and caprittos, thrive here very well, but must be secured at night against the wolves and foxes, till the country is better settled.

B I R D S.

Florida, on account of its climate, has a great variety of birds; immense numbers migrate thither in winter, to avoid the cold of the northern latitudes. In the woods are plenty of wild turkeys, which are better tasted, as well as larger, than our tame ones in England.

The pheasant is in size like the European, its plumage like that of our partridge. The American partridge is not much bigger than a quail, and seems to be of that species.

The

The wild pigeons, for three months in the year, are in such plenty here, that an account of them would seem incredible.

All the different sorts of water-fowls belonging to America, (the swan excepted) are found here in the greatest abundance.

F I S H.

The rivers of the southern provinces of North-America abound greatly with fish, but Florida rather more than any other : those mostly made use of, are the bass, mullet, different sorts of rays, and flat-fish, cat-fish, sea-trout, and black-fish.

Of shell-fish : several sorts of crabs, prawns, and shrimps, of an extraordinary size.

The oysters are so plentiful here, that nothing is more common, than at low water, to see whole rocks of them.

There are three sorts of sea-turtle common in East-Florida, the logger-head, hawk's-bill, and green-turtle. There are likewise two sorts of land-turtle, one of them is amphibious, and the other, not so, is called a terrapin.

I N S E C T S.

If one considers the extent of East-Florida, and the small number of inhabitants it has had these sixty years, since the native indians were exterminated by the Creeks, one would be apt to think it must of course be over-run with venomous insects and reptiles : several writers who mention Florida, have taken it for granted to be so ; amongst others, the gentleman who lately wrote major Rogers's History of North America, tells us, East-Florida would be a fine country, were it not for the innumerable venomous insects with which it is infested : the fact is quite otherwise ; if we except the alligator, East-Florida has fewer insects than any other province in America :
during

during my stay there, I saw but two black snakes; Mr. Rolle, who for eighteen months lived constantly in the woods, has seen but one rattle-snake. If East-Florida is so happy as to have so few venomous creatures, it is not owing to a supernatural or miraculous cause, like the blessings of St. Patrick upon Ireland, but to a very plain and natural one, which is, that the hunting parties of the Creek Indians, who are dispersed through the whole province, continually set the grass on fire, for the conveniency of hunting; by which means, not only the insects but their eggs also are destroyed.

Alligators are here very numerous; they do not excite any fear, as there has not yet occurred any instance of their attacking men, either in the water, or upon the land.

There is an insect in East-Florida, not known in other parts of America, which is a large yellow spider; the hind part of his body is bigger than a pigeon's egg, and the rest in proportion; its web is a true yellow silk, so strong as to catch small birds, upon which it feeds: the bite of this spider is attended with a swelling of the part, and great pain, but no danger of life.

A great variety of lizards are found here, some of them very beautiful, changing their colour like the cameleon; they are quite a harmless insect.

These are found only on the orange trees - and not so large as is here said, ~~because of their being~~ The bite is not venomous nor painful, nor do they feed upon birds, but are a beautiful & beautiful insect building rich & extensive fabrics for the taking of insects.

C H A P. V.
OF CULTIVATION.

R I C E.

FROM the climate of Florida, and the great variety of tropical, as well as northern productions, that are natives of this country, there was reason to expect, that cotton, rice, and indigo, would grow here as well as in any part of the globe, all these have now been planted, and are found to thrive extremely well. Some of the planters from Carolina, that have visited Florida, since it came into our possession, are of opinion, that it is fitter for the production of rice, even than South-Carolina.

two many birds.

The great peculiarity, and indeed the principal difficulty, attending the cultivation of rice, in a proper climate, arises from the necessity of laying the ground where it is sown under water at two stated periods. It is manifest, that not many situations can have this command of water; but from the number of rivers in Florida, and the nature of the country, which approaches to a level without being so, it is easy to discern, that the streams of water can be guided more at pleasure, than if the inequalities of the surface were greater.

Florida is in the same latitude with Bengal and China, where rice grows in greater plenty than any where else in the world; and when the variety of swamps, rivulets, and water-side lands are considered, we may give credit to what a very knowing and eminent planter of Carolina says, who has been up the river St. John's as high as lake George, that the country from that lake to Mr. Rolle's, 45 miles in length, will, in his opinion, yield as much rice as is produced in all South-Carolina.

C O T T O N.

Since every colony in America seems to have, as it were, a staple commodity peculiar to itself, as Canada the fur ; Massachusetts-bay, fish ; Connecticut, lumber ; New-York and Pennsylvania, wheat ; Virginia and Maryland, tobacco ; North-Carolina, pitch and tar ; South-Carolina, rice and indigo ; Georgia, rice and silk. I am much disposed to prognosticate, that cotton will, in time, be a staple commodity in Florida.

The cotton shrub is known to thrive best in a light sandy soil, in the sandy parts of Arabia, where from the appearance and dryness of the sand, one could expect nothing to grow, very fine cotton is produced : the pine-barrens, and worst parts of Florida, are therefore fit for this shrub.

It is needless to say any thing of the utility and importance of cotton as an article of trade ; Bengal, and the Coromandel coast, in great measure, owe their riches to it ; the calicoes, chintz, muslins, &c. &c. annually imported by the East-India company, and sold at such immense profit, are all made of cotton.

The quantity imported from the West-Indies, notwithstanding the great increase lately made in the produce of it at Tortola, one of the Virgin-islands belonging to Great-Britain, bears but a small proportion to the whole consumption. A great demand has raised the price of the Turkey cotton from five-pence to ten-pence a pound, and of the West-India, from nine-pence to two shillings.

The Manchester manufactures are greatly cramped by the scarcity of this commodity, and would be considerably extended should cotton become plentiful in England.

A small bounty upon the growth of it in Florida, might be attended with good effect, and be a wise encouragement of an infant colony.

The

The cotton-tree hath been planted in Florida, where it is found it thrives so well, as plainly proves the soil and climate to be adapted to it.

S I L K.

With respect to the cultivation of silk in Florida, there is not the least doubt of the climate being better adapted to the silk-worm than any country in Europe, or probably, in America : silk abounds much more in India, Persia, and China, which are in the latitude of Florida, than in Italy.

A considerable increase has of late been made in the growth of silk in Carolina and Georgia ; at Purisburgh, silk is become the staple commodity of the place : this town was settled about 40 years ago, by some natives of Switzerland ; it lies 30 miles east of Savannah.

In Carolina and Georgia the worms are often injured by accidental frosts, and cold mornings, in the spring, especially if it is a late one ; they are sometimes actually destroyed, and at other times are benumbed and made sickly for want of warmth : this inconvenience is also frequently experienced in Italy : it is almost unnecessary to remark, that the southern situation of Florida has placed it out of the reach of this disaster.

In Georgia there is often a great deal of thunder and lightning in the spring-season, which is apt to affect and injure the silk-worm ; whereas in Florida, where frequent showers refresh the air, and the sea-breezes keep it in constant agitation, the thunder is neither so common or so violent : experience will probably shew, that this country is as much adapted to the silk-worm as to the mulberry-tree, on which it feeds. It has been before observed, that this tree grows in its utmost luxuriance in all parts of Florida.

S U G A R.

The sugar cane hath now been planted about two years, and promises to turn out very well ; those canes that were planted by way of experiment at Augustine, suffered by a very uncommon frost last winter, but those at Mr. Oswald's plantation upon the Musquito inlet, about 50 miles to the south of

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Augustine,

*about 20 m
W. or N.W. of
Savannah
the river is
propagated from
the Carolina
side.*

Augustine, were not at all injured, and we shall therefore before it is long, be able to judge how far the southern parts of the province are fit for this valuable production. It is certain the sugar-cane is a tender plant, that requires both a good and a moist soil, as well as a hot climate to bring it to perfection.

The sugar-cane is not a native of the West-Indies, as is commonly taken for granted; nor will it grow there without art and cultivation.

The common use of sugar in Europe was introduced by the Portuguese, who transplanted it from the East-Indies into the Madeira islands; the sugar-cane flourished there, and in the Canaries, which are in the latitude of Florida, so well, that all Europe was supplied from thence with sugar.

The loaf-sugar at this day, in Germany, is called Canary-sugar. Sugar is plentiful and common in Egypt, in parts further from the tropic than Florida. Pliny, the elder, makes it the produce of Arabia and India.

In the neighbourhood of Malaga, sugar used to be raised in great abundance, and it is grown in some parts of Spain at this day. The south of Spain is ten degrees north of the capes of Florida. The plantane-tree and allegator pear, the tenderest of the tropical plants, are in full perfection at Augustine.

As both the soil and climate of East-Florida seem fit for sugar, one cannot reasonably doubt, but the cultivation of it will be attended with success; and if in some respects Florida be found inferior to the West-Indies, which I do not expect, it has in other respects the advantage of them.

The stock of a sugar planter is not only procured, but supported at a vast expence; the excessive price of labour in the West-Indies, arising from the unhealthiness of the climate, and the dearness of the necessaries of life, virtually amounts to a tax upon the sugar-planter; not only all kind of cloathing,

but

but provisions too, must be imported from Europe, and the northern plantations.

The materials for building, all the lumber required to erect and repair the sugar-works, must be fetched from the continent: in Florida they are found upon the spot. In the islands, the wages of a carpenter, mason, &c. run up as high as ten shillings a day; the natural plenty in Florida will make labour there comparatively cheap.

The overseer, and other white servants, will, beyond all question, be hired much cheaper in a plentiful and good climate, than in a scarce and sickly one.

Not only overseers and servants will be had at a reasonable price, but horses, cows, and oxen, may be purchased at less than one sixth of the price they bear in the West-Indies. Mules and horses are there sold from 20*l.* to 30*l.* a-piece: a serviceable horse in Florida may be had for 4*l.* The price of an ox is no more than 3*l.* in Florida. It is not only the prime cost of the stock that differs so much in the two countries, but the expence of maintaining it bears the same comparative difference; grass and fodder for the cattle, and corn and flesh-meat for the servants, are very scarce in the islands, and very plentiful in Florida.

When the sugar is made, it is often necessary, in the West-Indies, to carry it at a great expence by land, a considerable distance to the shipping-places: this expence will be saved in Florida, where a planter will be sure to make his plantation on the side of a navigable river.

In Florida the lands are not sold, as in the ceded islands, but given upon easy conditions; and the reservation made to the crown is only a halfpenny an acre, after the end of three, five, or ten years, which is regulated by the extent of the grants.

It often happens in the West-Indies, as it did last year, that when the ground is prepared, and the cane planted, the rains, or seasons as they are called, fail; as often as this is the case, the crop is ruined by a drought, a misfortune which is not to be apprehended in Florida.

INDIGO.

Both the soil and climate of East-Florida are suited to this plant; the Spaniards planted some of the guatemala indigo in their gardens at Augustine, where I have seen, in a poor, sandy soil, indigo plants of a larger size, and in a more luxuriant state, than ever I saw in South-Carolina in the richest and best cultivated lands: I was informed the Spaniards cut it four times a year.

INDIAN CORN.

This grain is the common food in America; the Spaniards being confined within the lines of Augustine, used to raise two crops a year upon the same ground; which I mention rather as a mark of the fertility of the soil, than of the good husbandry of the Spaniards: it grows here in almost every soil.

HEMP.

The large bounties granted by parliament, and the considerable premiums by the society of arts and sciences, will induce some of the new settlers to cultivate hemp; it requires a fresh, strong, moist soil: the swamps, after being cleared and drained for rice, are fittest to be sown with hemp for the first and second year.

VINES.

It is not at all doubtful whether the vine will flourish in Florida, because it grows there, and in almost all parts of America, south of Delaware, in great plenty. The wild grapes of America are of little worth, they usually run up the trees of the forests, where they are too much shaded, and for want of cultivation, of no value,

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The dearness of labour, and the cheapness of foreign wines in America, have both contributed to prevent the planting of vineyards more frequently. The French refugees planted some in South-Carolina, and I have drank a red wine of the growth of that province little inferior to Burgundy.

When it is observed that the richest wines are produced in the islands of Madeira and the Canaries, in the island of Cyprus, and in other parts of the Levant, lying nearly in the latitude of East-Florida; it will, probably, not be owing to any defect either in soil or climate, but to the dearness of labour, or negligence of the inhabitants, if wine is not produced hereafter in some plenty upon this continent.

Currants, raisins, figs, and olives, will most probably thrive here whenever they are planted.

Having finished what I had to say of the country of East-Florida, I must, before I conclude, add one word more upon the subject of procuring inhabitants for it.

The government has acted agreeably to the wise and masculine spirit of its policy, in laying the new foundation of several extensive colonies. Civil as well as military establishments have been provided these four years for the two Florida's, at an expence of near 100,000 l. a year; but still the inhabitants of both of them put together, (soldiers and savages excepted) would not make a very large congregation in a good parish-church.

If the government resolves not to stir one step further in assisting this colony, it has gone already a great deal too far; Florida, without inhabitants, is so much worse than nothing, that Great Britain must lose near 100,000 l. a year by it.

Governments, and garrisons, establishments civil and military, without inhabitants, or any measures taken to procure them, seems something strange. It is very unusual to take all the measures requisite to a particular end but

one, and to neglect a single one, which being omitted, tends to render all the rest abortive.

If a farmer should purchase an estate, hire servants, prepare the ground for sowing, have the seed-corn ready, and still save the expence of putting it into the ground, all his neighbours would laugh at him. Rice, cotton, and indigo, will grow in East-Florida, if they are planted, but they will not grow without. We must not expect because a country is a good one, that it therefore will work miracles, and without so much as sowing the teeth of Cadmus's serpent *, of itself produce the human species.

If East-Florida settles itself, which it is left to do, it will be the first colony on the continent that ever did do so: the fact, as far as experience goes, overturns the theory.

Notwithstanding every wise and generous measure is taken by governor Grant for the good of East-Florida, yet without the assistance of government, his best endeavours will not suffice. When we consider the amount of the present establishments for that country, it seems to be bad œconomy to stay for years, in order to see what East-Florida will do for itself. None of the American provinces are so well peopled, as to spare inhabitants; and were any of the inhabitants to the northward disposed to go to Florida, it is, with respect to the migration of families, quite inaccessible by land, for want of roads, and ferries to pass the several large rivers; and such inhabitants as may be willing to seek a new habitation, cannot afford the expence of conveying themselves and families by sea.

Neither is Florida likely to be settled by inhabitants from Europe, unless the government will defray the expence, and pay the passage, for men who have neither money nor credit to convey themselves thither. Will any man go from Europe to Florida at his own expence, when he can go to South-Carolina passage free, and have lands given him when he gets there, without

* Ovid. iv. Metam.

any expence; and besides this, be supplied with necessaries and provision for a twelvemonth. South-Carolina, though settled above a century, is still at an expence of 4000 l. a year, in bounties given for the importation of foreign protestants*: we ought to follow their example, and not content ourselves with the name only of governments and colonies.

Should the parliament of Great-Britain give only the same bounty that Carolina gives, East-Florida would stand a chance at least, of becoming inhabited; the healthiness and fertility of this country will be known by degrees; and I do not doubt, but foreigners may be induced to go thither upon the same terms they are tempted to go to other colonies. I believe several persons of note intend to apply for grants of land in East-Florida, with a view of raising sugar, or other articles there, by the help of negroes: and it is also true, that the condition of each grant, requires the having one white inhabitant to 100 acres of land; but it is surely impolitic, to make the actual settling of new colonies depend upon a slight and precarious foundation, without assisting the laudable designs of those who apply for grants, and seconding their views, by promoting the importation of foreign protestants, to supply them with cheap servants, and useful labourers.

* By foreign settlers is to be understood, 1. Germans from the Rhine, Moselle, and other parts, where they cultivate vineyards. 2. Protestants from the southern provinces of France, used to the culture of silk, olives, vines, &c. 3. Inhabitants of the islands of Greece, and the Archipelago; they are a very sober, industrious people, well skilled in the cultivation of cotton, vines, raisins, currants, olives, almonds, and silk-worms: the soil and climate of East-Florida is adapted to every one of these articles.

Without doubt, many of my readers, especially those unacquainted with America, will be apt to ask, why should we make choice of foreigners, and not of our own subjects? to which I would answer, that these foreigners, when settled in an English colony, are no longer foreigners, but subjects to Great Britain. It would be very impolitic to encourage, or so much as to countenance the emigration of industrious husbandmen, and useful manufacturers; and those which are either chargeable, or useless to the public here in England, will be much more so in a new colony; besides, experience convinces us, that foreigners are the fittest people to settle America. The provinces of Pennsylvania, New-York, and New-Jerseys, chiefly inhabited by Germans and Dutch, are the best peopled, and very wealthy, notwithstanding the little value their produce is of, compared with the southern colonies: and it is undoubtedly true, that the flourishing state America is in, is chiefly owing to the continual importation of foreign settlers.

At a time when public oeconomy is absolutely necessary, I do not wish to see such sums expended to settle Florida, as has been done with respect to Nova Scotia; but since a method of encouraging foreigners to settle in America has been some time practised, and experience hath shewn it to be both frugal and efficacious, I flatter myself the administration will adopt the system of Carolina, or some other equally expedient.

The amount of the civil establishment in East-Florida, is 5700 l. a year, granted by parliament: If Great-Britain should grant an equal sum, to encourage the settling of the colony, and allow only 2500 l. to be paid in bounties of 4 l. per head to the master of the ship, for every foreign protestant imported, and allow 2500 l. more, to supply the new settlers with provisions for nine months, and the remaining 700 l. for provincial premiums, upon the growth of cotton, sugar, indigo, &c. we need not despair under the auspices of governor Grant, to see East Florida a flourishing colony.

APPENDIX.

A P P E N D I X.

Extract of a letter from an eminent planter in South-Carolina, to a noble Lord in England, dated, Charles-Town, August 27, 1765.

“**S**OON after my arrival at Augustine, I set out for St. Juan’s river, and arrived that evening at Piccolata, a small fort upon the banks of St. Juan’s; next morning we proceeded up the river as far as Mr. Rolle’s town, which may be about 30 miles from Piccolata: the land on both sides of the river is very indifferent, except some spots here and there; but at Mr. Rolle’s the good land begins. After staying one night at Mr. Rolle’s, we set out for Lake George, went that day as far as Spalding’s store, and next day arrived at Lake George, which is 20 miles long, and 15 broad. From Mr. Rolle’s to Lake George, which is near 50 miles, is one continued body of excellent land; I may say the best in the king’s dominions. This tract alone is capable of producing yearly more rice than the whole province of South-Carolina has ever yet produced in a year: these lands seem to me more adapted to rice and indigo, than any thing else: it is better land than mine at Winyaw, which is reckoned some of the best in South-Carolina. We intended to cross the lake, but the wind blowing fresh, and we in an open boat, it was not thought safe to venture, and therefore turned back, after staying one night and a day. Our Guide, who was a man of credit, informed us, that after you pass over Lake George, there was good land on each side of the river for 50 miles; when you meet with another lake, not quite so large as lake George: when that is crossed, the country, as far as you can see, on both sides of the river, is a fresh water marsh: for 40 miles higher

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up’

Little Lake

up, these marshes are extraordinary rich lands ; here the river begins to be shallow, but from the mouth to this place, it is the best and safest navigation I ever have seen. At this place, in a still evening, the surf of the sea is heard, and plenty of sea-birds are seen in the river ; which is a sign it cannot be above seven or eight miles from the sea.

In coming down the river, within a few miles from Mrs. Rolle's, we pitched upon an island where we landed, and examined it ; it may contain about 14 or 1500 acres ; a ridge of high lands runs across, on which is a continued grove of orange-trees, live-oak, wild cherries, and magnolia ; on each side of this ridge, is as fine a body of rich low lands as any in the world. Near this island is a tract of very good land, separated from it by a creek of about 40 yards wide, and deep enough for any ship. Great plenty of fresh water fish is here in the river, and abundance of ducks, and wild turkies upon the island. I shall return to East-Florida next November, and carry negroes with me ; as the governor will not grant us our land, till the negroes are arrived in the province."

St. Augustine, May 1, 1765.

" SIR,

" In consequence of your desire, and your purpose to bring to East-Florida foreign protestants, in case I could assure you the land to be good, and fit for cultivation ; in answer to which, I acquaint you, that, by order of the lords of trade, and virtue of my appointment, as surveyor-general of the southern district of North-America, I have made, since January, an exact survey of the land, and sea-coast, from St. Augustine towards the cape of Florida, as far as latitude 26. 40. the special charts of which, as well as a general map, with my journal, I have transmitted to the board of trade ; and make no doubt will be published for the instruction of such as are of your good disposition. You may inform those, who choose to become inhabitants of East-Florida, at this favourable juncture of its beginning, that the first comers will have great advantages in the choice of their land. There is variety of soil in East-Florida ; the high lands, some very rich, with a clay foundation ; some less, with a sandy bottom, and some quite sandy : the first and second produce oranges sweet and sour, lemons, oak, ash, red bay,

spice-tree,

spice-tree, papaw-tree, and pine ; the third sort of soil produces the cabbage-tree, the arboreous grape-vine, the plumb-tree, and opuntia, on which the cochineal worm is nourished.

The low lands are partly cypress and tupelow swamps, partly fresh water marsh, without any tree, except cedar, on the foot of the high lands ; partly salt-water marsh, full of the barilla, and the mangrove-tree. There is an inland navigation mostly through the whole province, by which the produce may be conveyed to the capes, or to St. Mary's river to the northward."

Abstract of a letter from a gentleman in Augustine, to his friend in London.

" SIR,

" According to your desire, I made all possible enquiry about the proper place to take up a tract of land ; but have not till lately, been able to get satisfaction on that head. I am informed, by a gentleman living upon St. John's, that the lands on that river, below Piccolata, are, in general, good ; and that there is growing there now, good wheat, Indian corn, indigo, and and cotton ; that the indigo promises well for a good crop ; and indeed there is all reason to believe, that this will exceed either Carolina or Georgia for indigo, as our climate is so much less affected by the frost than theirs. I am farther informed, by one of the principal planters in Carolina, who came here to take up land, that above Piccolata, for 40 miles along the river is as good swamp, or rice land, as any in Carolina : this gentleman is come to live here, as he finds East-Florida much healthier than South-Carolina, and that it is so, is the opinion of every body : agues and fevers are disorders hardly known here. Some gentlemen are gone to the southwards, to a place called Musquito, to take up land, as there is great expectation of sugar ; as in that part they never have any frost, and the soil naturally produces the West-Indian plants. You will find your grant no inconsiderable matter, as it has all the appearance we shall make a figure here in time, if we are properly encouraged from home. It is true, the bar of Augustine is a great bar to our hopes ; it has a dreadful appearance to strangers, though if a vessel draws but eight or nine feet water, it may safely come over.

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It is not expensive living here ; all kind of provision is cheaper here than in England ; and house-rent excessive cheap, and good houses they are, though built in the Spanish fashion, which is the properest for this country."

For the gratification and instruction of such of my readers as may be inclined to petition for a grant, or to take up land in East-Florida, according to a proclamation issued by his excellency governor Grant, dated, October 1, 1764. I have annexed both the conditions of the grant, and the Terms of the proclamation.

A PROCLAMATION.

EAST-FLORIDA.

" By his excellency James Grant, Esq; captain-general, governor and commander in chief, in and over the said province, and vice-admiral of the same.

" **W**HEREAS the king, by his royal instructions, has commanded me to issue a proclamation, to make known the terms and conditions, on which all persons may obtain grants of lands in the said province ; I do, in obedience to his majesty's instructions, issue this my proclamation, and make known to all persons, that they may, on application to me in council, at St. Augustine, obtain grants of lands, in the said province of East-Florida; in the following quantities, and on the following terms and conditions.

That 100 acres of land will be granted to every person, being master or mistress of a family, for him or herself ; and 50 acres for every white or black man, woman, or child, of which such person's family shall consist, at the actual time of making the grant : and in case any person applying as aforesaid, shall be desirous to take up a larger quantity of land than the family-right entitles such persons to, upon shewing a probability of cultivation, an additional number of acres, not exceeding 1000, may be obtained, upon paying, to the

the receiver of the quit-rents, the sum of five shillings sterling, for every 50 acres of such additional grant, on the day of the date of the said grant.

That the quit-rents of the land granted in this province, to be one half-penny per acre, payable to his majesty, his heirs and successors, yearly, on the feast of St. Michael, which shall happen two years after the date of the grant.

That in all grants of land to be made, regard will be had to the profitable and unprofitable acres; so that each grantee may have a proportionable number of one sort and the other; as likewise, that the breadth of each tract of land be one third of the length of such tract; and that the length of each tract do not extend along the banks of any river, but in the main land; and thereby the said grantees may have each a convenient share of what accommodation the said river may afford, either for navigation, or otherwise.

That all persons, on fulfilling the terms of the first grant, may have a further grant of the like quantity of lands, on the same terms and conditions as aforesaid.

That for every 50 acres of plantable land, each grantee shall be obliged, within three years after the date of the grant, to clear and work three acres, at least, on that part of the tract which they shall think most convenient or advantageous; or else, to drain or clear three acres of swampy, sunken ground; or drain three acres of marsh, if any such within his or her grant.

That for every 50 acres of land, accounted barren, every grantee shall be obliged to put on his or her land, within three years after the date of the grant, three neat cattle; which number every person shall be obliged to continue on their lands, till three acres for every fifty be fully cleared and improved.

That if any person shall take up a tract of land, wherein there shall be no part fit for present cultivation, without manuring and improving the same,
every

every such grantee shall be obliged, within three years from the date of the grant, to erect on some part of the land, one good dwelling-house, at least 20 feet in length, and 16 in breadth; and also to put on the land, the number of three neat cattle for every 50 acres.

That if any person, who shall take up any stony or rocky grounds, not fit for culture or pasture, shall, within three years after the passing the grant, begin to employ thereon, and continue to work for three years then next ensuing, in digging any stone-quarry, or other mine, one good hand, for every 100 acres, it shall be accounted a sufficient cultivation.

That every three acres which shall be cleared and worked as aforesaid, and every three acres which shall be drained as aforesaid, shall be accounted a sufficient seating, planting, cultivation and improvement, to keep for ever from forfeiture 50 acres of land in any part contained within the same grant; and the grantee shall be at liberty to withdraw the stock, or forbear working in any quarry or mine, in proportion to such cultivation and improvement as shall be made on the plantable lands, or upon the swampy or funken grounds, or marshes, which shall be included in the same grant.

That when any person who shall hereafter take up and patent any land, shall have seated, planted, or cultivated and improved the said land, or any part of it, according to the directions and conditions abovementioned, such patentee may make proof of such seating, planting, and cultivation or improvements, in any court of record in the said province, or in the court of the country, district, or precinct, where such lands shall be, and have such proofs certified to the register and office, and there entered with the record of the said patent; a copy of which shall be admitted on any trial, to prove the seating and planting such lands."

At the Court of St. JAMES'S.

"**W**HEREAS the lords commissioners for trade and plantations have represented to his majesty, at this board, that application has been made to them, by , praying for a grant of lands in his majesty's province

province of East-Florida, in order to make a settlement thereupon, his majesty, this day, took the same into consideration; and having received the opinion of the lords commissioners for trade and plantations, and also of a committee of the lords of his majesty's most honourable privy-council thereupon, is hereby pleased, with the advice of his privy-council, to order, that the governor and commander in chief of his majesty's province of East-Florida, for the time being, do cause acres of land to be surveyed, in one contiguous tract, in such part of the said province as the said , or his attorney, shall choose, not already granted, or surveyed to others; and upon return of such survey, conformable to his majesty's directions in general instructions, to pass a grant for the same to the said , under the seal of the said province, upon the following terms, conditions and reservations, viz.

That the grantee do settle the lands with protestant white inhabitants, within ten years from the date of the grant, in the proportion of one person for every 100 acres.

That if one third of the land is not settled with white protestant inhabitants in the abovementioned proportion, within three years from the date of the grant, the whole to be forfeited to his majesty, his heirs or successors.

That such part of the whole tract as is not settled with white protestant inhabitants at the expiration of ten years from the date of the grant, to revert to his majesty, his heirs or successors.

That an annual quit-rent of one halfpenny, sterling, per acre, be reserved to his majesty, his heirs or successors, payable on the feast of St. Michael, in every year, to commence, and become payable, upon one half of the said land, on the said feast of St. Michael, which shall first happen after the expiration of five years, from the date of the grant; and to be payable on every ensuing feast of St. Michael, or within fourteen days after; and the whole quantity to be subject in like manner to the like quit-rent, at the expiration of ten years.

That

That there be a reservation in the said grant to his majesty, his heirs and successors, of all those parts of the land, which the surveyor shall, upon the return of the survey, report to be proper for erecting fortifications, public wharfs, naval yards, or for other military purposes.

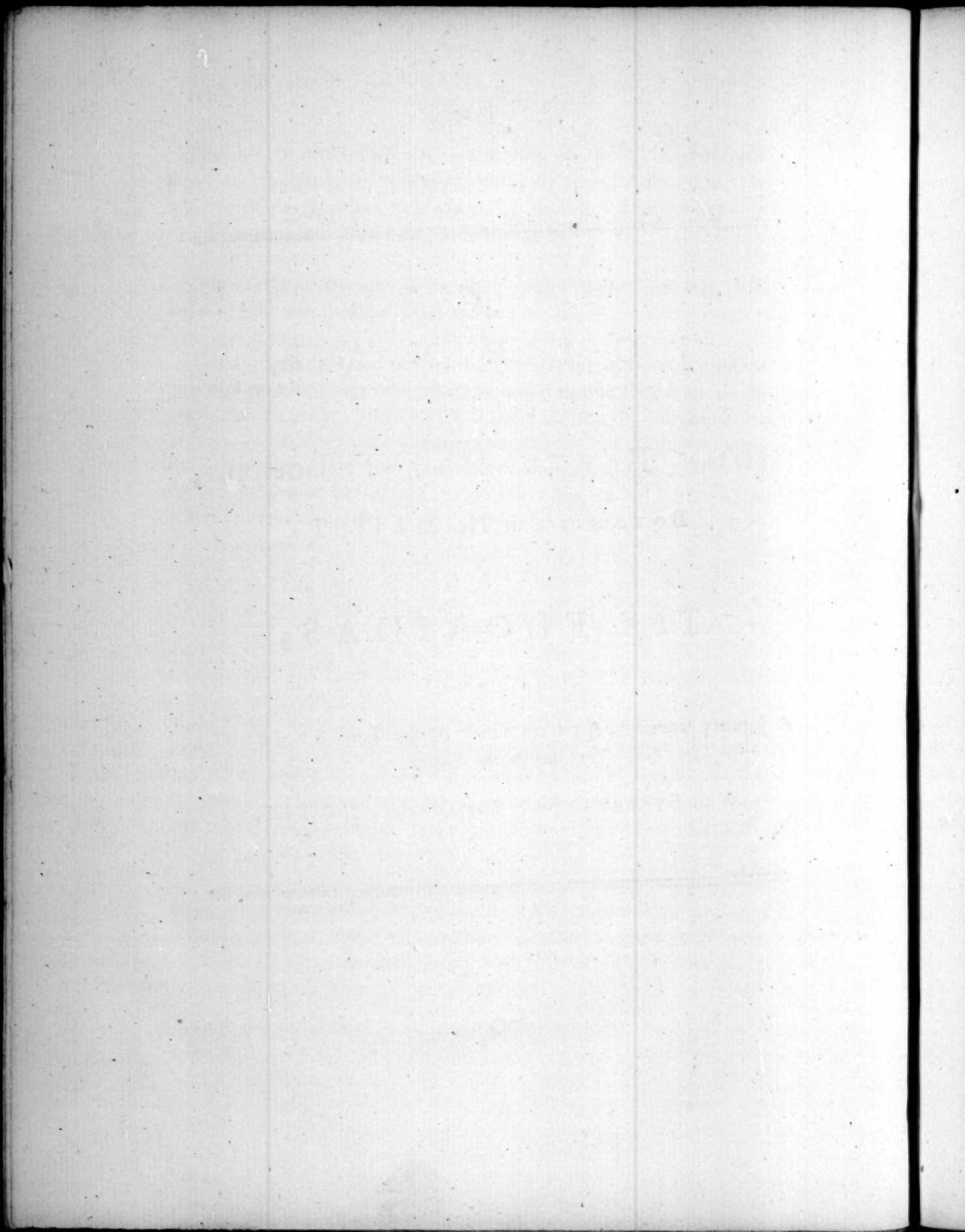
That there be a reservation to his majesty, his heirs and successors, of all mines of gold, silver, copper, lead, and coals.

That any part of the land which shall appear, by the surveyor's report, to be well adapted to the growth of hemp or flax, it shall be a condition of the grant, that the grantee shall sow, and continue annually to cultivate a due proportion of the land, not less than one acre in every 1000, with that beneficial article of produce. And the governor or commander in chief of his majesty's province of East-Florida, for the time being, and all others whom it may concern, are required to carry his majesty's commands, hereby signified, into execution.

F I N I S.

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A
JOURNAL,
KEPT BY
JOHN BARTRAM *of* Philadelphia,
BOTANIST to His MAJESTY
FOR
THE FLORIDAS;
UPON
A Journey from ST. AUGUSTINE up the River ST. JOHN'S,
as far as the Lakes.
With EXPLANATORY BOTANICAL NOTES.



THE
INTRODUCTION
TO THE
JOURNAL.

AS my view in publishing the account of East-Florida was to make the nation acquainted with the importance of that colony, and its natural advantages beyond the rest of the continent of North-America, I feel a particular satisfaction in finding that my endeavours have not been unsuccessful, and that the prejudices of the public against East-Florida, which seemed some time ago to be insuperable, are so much abated, that I no longer wish for a more impartial enquiry than is at present made, after the value and real consequence of the different parts of that country.

In order to gratify the curiosity of the speculative, and to give all possible satisfaction to the enquiries of those who are desirous to judge of the nature of the soil and climate of East-Florida, and to compare the advantages and disadvantages of settling there, I here publish the following Journal ; from which those who are accustomed to estimate the comparative goodness of countries, to consider the principles of vegetation, and to observe the similarity of produce in similar climates, will conclude a great deal ; whilst men of no knowledge or experience in these matters, will conclude (I had almost said) nothing at all.

Mr. John Bartram, a native of Pennsylvania, the author of this Journal, is well known, and well respected in the learned world, as an able Naturalist ; his knowledge in Botany recommended him to the esteem and patronage of the Great, and procured him the honour of being Botanist to his Majesty for both the Floridas. The usefulness of his Journal, in making early known to the world what are the natural productions of the country to which it relates, is a sufficient proof of the usefulness of his appointment.

The frequent discovery of new plants and herbs, in countries long settled, shows how necessary it is that a new country should be seen, and observed by

learned eyes, in order that an age may not pass before any tolerable judgment is formed of what it naturally produces, and of what it is capable of producing.

Nobody is uninformed, that Carolina was settled near half a century before a grain of rice was sown in it, though it is now the staple commodity of the colony; it might have wanted that basis of its present importance to this hour, had not an accidental remnant of rice on board a ship, that had victualled with it, been given a planter, who sowed a little for an experiment. How long was England, this active, enterprising, philosophical nation, uninformed of the uses of clover, turnips, potatoes, &c. without which its present inhabitants would be at a loss for subsistence? I hope that such instances as these in times past, will prevent the like in time to come; and that intelligent men, whose knowledge is extended over the whole globe, will endeavour to multiply the articles of commerce in his Majesty's dominions, and the means of subsistence every where, by transferring the useful trees, plants, and grains, from countries where they are cultivated, to those where they are not, but may be cultivated equally well. The new introduction of but a single grain or plant, as the rice in Carolina, or the turnip in Norfolk, will sometimes totally change the face and condition of a country. Here therefore is a field in which the naturalist may make his science peculiarly useful. His knowledge extending throughout the vegetable world, informs him where every valuable plant, grain, or tree is to be found, and also in what country it is wanting, and may be propagated to advantage. I cannot touch upon this subject without mentioning Mr. John Ellis, Fellow of the Royal Society, and Agent for West-Florida, whose discovery of the art of preserving seeds during long voyages, together with his assiduity in procuring from all parts of the globe, such as are most likely to be beneficial to his Majesty's colonies, does honour to himself, and will render him, I doubt not, a great benefactor to mankind. It is to this very ingenious gentleman that I am indebted for the following catalogue of plants that may be useful in America, in which, to avoid confusion in the botanical names, Mr. Ellis hath given both the generic and the specific or trivial names of the plants, with the page referred to in the celebrated Dr. Linnæus's 2d edition of his Species of Plants. Other authors of the best authority are mentioned, where Linnæus is silent.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Rubia Perègrina Rubia Tinctorum	page 158 page 158	Turkey Madder * Dyers Madder	The first is supposed to be the same that is now cultivated in Smyrna for a crimson dye.
Quercus Suber	p. 1413	Cork bearing oak	Grows in the southern parts of France, Spain, and Portugal.
Quercus Ægilops	p. 1414	Avellanea or Valenida oak	The cups of the acorns, which are very large, used here in dying, grow in Greece and Natolia. <i>particularly in the Island of I. Bourne. they gather in one year 1700 lbs.</i>
Quercus Gallifera	Parkinson 1386	Gall-bearing oak	Galls from Aleppo and Smyrna.
Carthamus Tinctorius	Lin. Sp. 1162	Safflower	Much used in dying, grows in Egypt. <i>This oak is not yet known here. The acorns may be used in dying, to the Reddish Green, and to the Lavender.</i>
Rhamnus catharticus minor Rhamnus Saxatilis	Tournft. 593 Lin. Sp. 1671	Buckthorns that produce yellow berries of Avignon	Used by painters and dyers; both these plants produce berries fit for this purpose.
Olea Europea	p. 11	Olives of several varieties	For oyl; these grow in France, Spain, and Italy. <i>young plants and ripe fruit of the French and Spanish may be brought from hence</i>
Sesamum Orientale	p. 883	Oily grain	Propagated in the Levant for oyl, which does not grow rancid by keeping.
Gossypium herbaceum Gossypium hirsutum	p. 975	Two sorts of annual cotton	Both these kinds of annual cotton are yearly sown in Turkey, and would grow well in the warm climates of N. America, as the Floridas, Georgia, Carolina, and Virginia.
Salsola Soda Salsola Sativa and Chenopodium maritimum	p. 323 p. 321	These kinds of glasswort for Barilla	These are sown yearly in fields near the sea in Spain for making Barilla, for soap, glass, &c.

* This plant is a native of the warmest parts of Europe, and is better calculated for the climate of the Floridas than either of Holland or England, where it is cultivated; but principally in the former, from whence we are chiefly supplied with this valuable dye. The chemists say, and with reason, that the warmth of the climate exalts the colour. If so it may be well worth the attention of the public to encourage the planting of so valuable an article of commerce in a climate and soil that seems so much better adapted to it, where the land is cheap, and where vegetation is so much quicker and more luxuriant; and while we encourage the growth of it in our colonies, we may have the advantage of manufacturing this valuable commodity at home, for which at present we pay sums scarcely credible, to the Dutch.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
<i>Ceratonia Siliqua</i>	p. 1513	Locust-tree or St. John's Bread	The pods are excellent food for hard working cattle, and used for this purpose on the sea coast of Spain, where they are easily propagated from seeds or cuttings.
<i>Pistachia Vera</i>	p. 1454	Pistachia-tree	They are propagated about Aleppo, where the female or fruit-bearing ones are ingrafted on the stocks raised from the nuts.
<i>Pistachia Terebinthus</i>	p. 1455	Chian Turpentine-tree	This kind of turpentine is used in medicine.
<i>Pistachia Lentiscus</i>	p. 1455	Mastick-tree	Gum Mastick from the isle of Scio; as this tree is doubted to be the genuine, seeds of the true may be procured from the isle of Scio. (commonly called the <i>Latianus</i>) Mastick Tree,
<i>Styrax Officinale</i>	p. 635	Gum Storax-tree	This tree grows in Italy, Syria, and India, but the warmer climates yield the best gum.
<i>Convolvulus Scammonia</i>	p. 218	Gum Scammony	From Aleppo. This deep tap-rooted plant will thrive well in all the warm sandy soils of our southern colonies. of this excellent drug seeds were sent into England about 20 y. ago by Dr. H. Russell. It has a climate very well adapted for it but requires the warm climate of S. S. For making the gum resin from it a beneficial oil of turpentine is required. It is propagated in Turkey, and has been found growing in our colonies.
<i>Papaver Somniferum</i>	p. 726	True opium poppy	This has been recommended already to be sown in our southern colonies of North-America, for the sake of obtaining opium pure. &c.
<i>Cassia Senna</i>	p. 539	Alexandrian purging Senna	This grows in Upper Egypt, and is brought from thence to Alexandria; it will not be difficult to procure the seeds of this useful drug.
<i>Croton Sebiferum</i>	p. 1425	Tallow-tree	This plant grows in moist places in China, and is of great use in that country.
<i>Rheum Palmatum</i>	p. 521	True Rhubarb	The seed of this plant was brought to England about five years ago, by Dr. Mounsey, F.R.S. from Moscow, and

The seed of this poppy is recommended by a great physician to the same purpose in medicine as sweet almonds. It has not the least narcotic quality in it.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Calamus Rotang Pterocarpus Draco (Palma Yuccæ fo- liis Arbor Draco }	p. 463 p. 1662 Dale. 272)	Three sorts of Gum Dragon or Dra- gon's blood	and appears by experiment to be the genuine true Rhu- barb of the shops, and is a most valuable acquisition to this country, as it will grow well in a deep rich soil, in- clining to a sandy or gra- velly loam, but not in too wet a situation, and may be cultivated both here and in North-America. <i>Mr. Ingleth at St. Vincent has raised this plant to great success, and sent great deal of seed (he sends) to our planters here, where, no doubt, will prove in a few years most beneficial article cultivated.</i>
Dolichos Soja	Lin. Sp. 1023	A kind of kidney- bean called Daid- fu	1. From a kind of cane in the East-Indies. 2. From Java and Surinam. 3. From the Canary and Madeira islands. Used for making Soye † or In- dia Ketchup. See Kämp. Amænitatis, 837.
Laurus Cassia Laurus Cinamomum	p. 528 p. 528	Cassia Lignea-tree Cinnamon-tree	Grows in Sumatra. In Ceylon, Guadaloupe, and in most of our newly ceded islands.
Laurus Camphora	p. 528	Camphire-tree *	In Japan, now in England in the green-houses about London.
Cycas Circinalis	p. 1658	Sago Palm-tree	In Java, and the warmest parts of the East-Indies.
Amyris Gileadenfis	Lin. Mant. 165	True balm of Gile- ad-tree †	Lately discovered in Arabia by Dr. Forskall, and described by Dr. Linnæus in a late dissertation.

Arundo

† The method of preparing East-India Soye or India Ketchup.

Take a certain measure, for instance a gallon, of that sort of kidney-beans, called Daidfu by the Japonese, and Caravances by the Europeans, let them be boiled till they are soft; also a gallon of bruised wheat or barley, (but wheat makes the blackest Soye) and a gallon of common salt. Let the boiled caravances be mixt with the bruised wheat, and be kept covered close a day and a night in a warm place, that it may ferment. Then put the mixture of the caravances and wheat together with the gallon of salt, into an earthen vessel, with two gallons and a half of common water, and cover it up very close. The next day stir it about well with a battering machine or mill (Rutabulum) for several days, twice or thrice a day, in order to blend it more thoroughly together. This work must be continued for two or three months, then strain off and press out the liquor, and keep it for use in wooden vessels; the older it is the clearer it will be, and of so much more value. After it is pressed out, you may pour on the remaining mass more water, then stir it about violently, and in some days after you may press out more Soye.

* The camphire from Sumatra is greatly preferable to that of Japan; we are not certain whether it is from a different species of tree, but it seems well worth inquiring into, as the effects of proportionable quantities in medicine are surprizingly different, perhaps it may be owing to the great difference of heat in the climates.

† We have in the island of Jamaica, a species of tree of this genus, called by Linnæus Amyris balsamifera. See Species Plantarum, p. 496. Sir Hans Sloane, in his Hist. of Jam. Vol. 2.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Arundo Bambo	p. 120	The true Bamboo cane	Of great use in China, and might be also in our American islands.
Anacardus Orientalis	Kämpf Am. p. 793.	Siam varnish-tree, called Ton-rak by the Japonese	The fruit of this is the Malacca bean, or marking nut, and the Oriental Anacardium of the shops. This is the common varnish of the East-Indies as described by Kämpfer. <i>The tree is unknown to the Botanists.</i>
Thea	Lin. Sp. p. 734	Tea	From Japan and China. See Kämpfer's Amœnitates, p. 605. *

Gardenia

p. 24. calls this tree Lignum Rhodium, from the odoriferous smell of its wood when burnt, which it diffuses a great way; for which reason he believes it to be the tree that afforded the agreeable scent which Columbus perceived on the south shore of Cuba, upon the discovery of that island, as it is mentioned by several historians.—Dr. Pat. Browne, in his history of Jamaica, p. 208. calls this tree white candlewood, or rosewood, and commends it much; he says it is very resinous, burns freely, and affords a most agreeable smell; and that all the parts of this tree are full of warm and aromatic particles.—Quere, Whether it is not worth while to extract the balsam, as it agrees so near in character and genus with that most valuable drug the balsam of Mecca?

(* The best method of bringing this valuable tree to England, is by sowing the seeds in tubs or pots, which seeds may be procured in plenty from the tea country, perfectly ripe in the autumn, about the time of the departure of our East-India ships from Canton in China. These tubs or pots must be well secured by a wited covering to keep them from the rats, which will otherwise destroy them as soon as they come out of the ground. Some of the seeds should be preserved in bees-wax, in order to be sown at different times on the voyage, and likewise some of those in wax to be brought home. The earth in the tubs or pots should be stirred near the edges, to prevent any mouldiness; this may be done with a thin flat stick; and to prevent the saline vapour being too much absorbed by the earth, a slight covering of land moss or chaff may now and then be repeated. This covering will likewise prevent the earth growing too dry on the surface, and save the young fibres from the burning heat of the sun's rays in those hot climates. When the plants appear, they must be kept as far from the spray of the sea as possible in rough weather, and the cabin windows should not be left open on them, unless in very moderate weather. When the seeds are inclosed in wax, they must first be very carefully wiped quite clean and dry, for the least dirt or damp will turn to mouldiness and rot them; and after each seed is carefully wrapt up in a coat of soft bees-wax, they should be put into small wooden boxes wherein there has been poured some melted wax, just at the time that the wax is cool enough for one to bear their finger in it, and is still fluid; when they are thus covered with wax, all cracks that proceed from shrinking on the cooling of the wax, must be stopped quite close with very soft wax. The cover of the box then may be put on, and kept in an airy cool place. The best soil for them is a fresh soapy crumbling loam, such as the under turf of earth of many of our commons in England. They must have but a moderate share of water on the voyage, so much as will keep the earth from being hard and binding; the covering the tubs with moss will greatly prevent this. If by accident the tops of the young plants should be broke off, the roots should not be thrown away, as they may shoot again. The celebrated Linnæus is now in possession of some tea-trees, which were brought over to him in the year 1763, by captain Ekenberg, the commander of a Swedish East-Indiaman. The captain sowed them in good earth just upon his departure, and took care to keep them as much as possible from the saline vapour

Batin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Gardenia Florida	p. 305	Umkyof the Chinese	Used in dying scarlet in China. <i>The pulp that forms the fruit is common water a small yellow colour, not so orange.</i> See Phil. Transf. Vol. 52. p. 654. <i>where there is an exact figure of it</i>
Mangifera Indica	p. 290	East-India Mango-tree	This excellent fruit is much esteemed in the East-Indies, and 'tis said there is a tree of it now growing in the island of Madeira. <i>By the description which I have given of this fruit, it is plain to be seen that it is the same as the one which is now growing at the Cape of Good Hope.</i>
Morus papyrifera	p. 1399	Paper Mulberry-tree	Used for making paper in Japan. See Kämpf. Amœnit. p. 467. This has been some time in the English gardens.
Cinchona Officinalis	p. 244	Jesuits-bark tree	This grows at Loxa in the province of Peru, and could it be obtained so as to be cultivated in our American islands, would be of infinite advantage to us.
Dorstenia Contrayerva	p. 176	Contrayerva-root	This grows in New Spain, Mexico, and Peru.
Smilax Sarfaparilla	p. 1459	Sarfaparilla-root	It is brought from the bay of Campeachy, and the gulph of Honduras, where it grows in plenty, and might easily be propagated in Florida.
Copaifera Officinalis.	p. 557	Balsam Copaiva tree	In Brazil, and Martinico.
Toluifera Balsamum		Balsam Tolu tree	This tree grows near Carthagena, South-America.
Hymenea Courbaril	p. 537	The Locust or Gum Copal tree for the finest transparent varnish.	This tree is now known to yield the true Gum Copal, and that the difference between this and Gum Anime, may be owing to soil and heat of climate; it grows wild in our

vapour of the sea: they are now in a fine thriving state in the physic garden at Upsal. — By pursuing this method, we may bring seeds or plants in a vegetating state to England from the remotest parts of the world. — It is asserted by some people, that the green tea and the bohea tea are two different species, but without foundation: They are one and the same species. It is the nature of the soil, the culture, and manner of gathering and drying the leaves, that makes the difference; for take a green tea tree and plant it in the bohea country, and it will produce bohea tea, and so the contrary. This is a fact attested by gentlemen now in London, that have resided many years in China, and been for some time where the tea grows.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
			our American islands, the Mosquito shore, and in Terra Firma.
Jalapium Officinarium	Dale. 183	True Jalap	This plant is supposed by some to be a kind of Bindweed or Convolvulus that grows near Mexico; by others it is thought to be a species of Marvel of Peru. <i>as we are uncertain of the genus, it is not worth acquiring it to, in order to propagate it in our colonies.</i>
Bixa Orellana	Lin. Sp. 730	Arnotto, for dying	This grows in all the warm climates of America. The French cultivate it, but what the Spaniards send is much richer in colour and more valuable.
Mimosa Senegal	p. 1506	Gum Senegal tree	This grows in Ægypt, and in Senegal.
Mimosa Nilotica	p. 1506	Gum Arabick	In Ægypt, from whence the seeds may be procured.
Ficus Sycomorus	p. 1513	True Sycamore of Zaccheus	This is reckoned the most durable timber we know. The repositories of the Mummies found in Ægypt are made of this timber.
Ficus Carica	p. 1513	Turkey Figs	Figs grow in the greatest perfection in Carolina, and would become a valuable trade if they had the method of curing them as in Turkey.
Vitis Apyrena	p. 293	Currants or Corinthian grapes	The cuttings of this vine might be procured from Zant (in the winter season, and first propagated here, and afterwards in our colonies.)
Fraxinus Ornus	p. 1510	Calabrian Manna Ash*	This is worth trying in our southern colonies, where the heats are violent in the summer. It is common in our nursery gardens.

Amygdalus

* There is no drug so liable to adulteration as this; and therefore, as it is a medicine so frequently in use among persons of tender constitutions, especially young children, great care should be taken to have it genuine.

Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Amygdalus Communis	p. 677	Jordan and bitter Almonds	These would grow to great perfection in our southern colonies.
Capparis Spinosa	p. 720	Caper tree	This shrub requires a rocky soil to grow in, as it is about Marseilles and Toulon. (Small plants may be sent from hence, being to be purchased of our nursery-men.)
Punica Granatum	p. 676	Balaustians, or the blossoms of the double flowering pomegranate	This tree would thrive extremely well in our southern provinces, and yield a profitable article in their blossoms. Plants of this kind are to be bought from most of our nursery-men.
Lichen Roccella	p. 1622	Argal, Canary-weed, or Orchell	'Tis possible this valuable plant may be found in our American islands, as well as in the Canaries and Cape-Verd islands.
Cistus Ladanifera	p. 737	Gum Labdanum	In Spain and the Archipelago.
Bubon Galbanum	p. 364	Gum Galbanum	In Ethiopia.
Pastinaca Opoponax	p. 376	Gum Opoponax	In Sicily.
Amomum Cardamomum	p. 2	Cardamums	In the East-Indies.
Curcuma Longa	p. 3	Tumerick	In the East-Indies.
Astragalus Tragacantha	p. 1073.	Gum Tragacanth or Gum Dragon	In the south of France and in Sicily.
Cucumis Colycintidis	p. 1435	Coloquintida, or bitter apple	In Africa.
Gentiana lutea	p. 329	Gentian	In the Alps, Appenines, and Pyrenees. To be had of the nursery-men.
Similax China	p. 1459	China root	In China and in New Spain.
Pimpinella Anisum	p. 379	Anise seeds	In Egypt.
Gambogia Gutta	p. 728	Gamboge	In the East-Indies.

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Quercus

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Latin Names.	2d Ed. Lin. Sp.	English Names.	Observations.
Quercus Coccifera	p. 1413	Alkermes oak	About Marseilles and Toulon.
Myrrha Offic.	Dale. Pha. 325	Gum Myrrh	In Abyssinia. <i>The character of this plant, and the 5 yellow leaves are not yet known to the botanists.</i>
Benzoinum Offic.	Dale. 303	Gum Benjamin	In Sumatra and Java.
Ammoniacum Offic.	Dale. 119	Gum Ammoniacum	In Africa.
Balsamum Peru- anum	Dale. 337	Natural Balsam of Peru	In Peru.
Olibanum Thus Mas.	Dale. 348	Frankincense	In the Upper Egypt and interi- or parts of Africa.
Nux Moschata Offic	Dale. 302	Nutmegs with Mace †	In Amboyna
Caryophyllus Offic.	Dale. 295	Cloves	In the Molucca islands.
Piper Nigrum	Lin. Sp. 40.	Pepper	Sumatra.
Garcinia Monga- stona	p. 635	Mangosteens	A most delicious fruit, grows in Java, and in several parts of the East-Indies.
Lechee		Lechee of China	This fruit is highly commend- ed by all persons that have been in China. <i>The character of this fruit are not yet known to the botanists.</i>
Ipecacuanha	Dale. 170 Margrave 17	Ipecacuanha of the shops, or Brasilian root	Very useful in medicine.
<i>that Catalogue may added liquorice, Sassa, and also Sassafras: of the two Sassafras we do not write near sufficiency at home for our own consumption, but we are obliged to import them from Spain.</i>	Ferula Asa Fætida	Lin. Sp. 356	Asa Fætida, or De- vil's-dung, called Hing in the Malay language

The gum of this plant is much
used in medicine. Kämpf.
535 and 536.

To these may be added the establishing of Apiaries for bees-wax and honey;
and the bringing over Angora goats from Natolia for the beneficial article mohair.
These animals would thrive in all the latitudes of North-America, between
thirty and forty degrees, and may be as easily procured by us, as they have

† Specimens of the Nutmeg-tree in fruit from the island of Tobago have been lately received
by the earl of Hillsborough, which his lordship has sent, with specimens of many other curious
plants, for the information of the publick, to the British Museum. They are certainly of the
same genus with the true nutmeg, and possibly may be improved by cultivation; the mace
evidently covers them, and they have all the characters and the same leaves with the wild Nut-
meg-tree described by Rumphius, in his Herbarium Amboinense, published by Burman.

been by the Swedes, who, in order to harden them to the severity of their climate, have artfully contrived to mix the breed with their own goats.

Lastly, the cultivation of the Madeira grape, or any other useful kind of grape, may be worth while attempting. I know the objection to vineyards in Carolina and Georgia is, that the rainy seasons coming on in autumn, as the grapes are ripening, they burst and become unfit to make wine; but as it is a well known truth, that vines of many sorts grow wild in the woods of America, and bring their grapes to perfection by twining up trees, Nature therefore seems to point out to us this method of planting them; and, supposing rows of mulberry-trees were planted to be their supporters, (as I am informed they are in some parts of Italy) they might shelter them from the violence of the rains, as well as be useful for silk-worms; whereas in vineyards where the vines are led along so close to the ground as they are in France, the grapes must necessarily lie open to the wet and dirt, that must unavoidably be thrown on them in violent showers from their too exposed situation.

I hope before long, to see wisdom directing, and wealth assisting, the hand of industry in East-Florida.

The attention that has been paid to this colony, since the preceding account was first published, sufficiently proves, that neither the gentlemen, or the nobility of England, are deficient in enterprize, where an object that merits attention is set before them.

A country unknown, must, if a paradise, still continue a desert. It is the happiness of the present age, that an active spirit is seen every where; and that all means of acquiring wealth and bettering the private condition of life are sought after, and examined to the bottom, so that nothing which deserves attention, remains long unknown, after the means of information are to be come at.

To form a competent judgment of the nature and value of any country, requires an enlarged and an active mind. The following Journal will help to manifest the natural advantages of East-Florida, and the experience of a very few years, will, I doubt not, sufficiently manifest the value of them.

WILLIAM STORK, M. D.

A JOURNAL, &c.

DECEMBER the 19th, 1765, set out from St. Augustine early in the morning, which was frosty, the ground being covered with a white hoar frost. We travelled to Greenwood's house, where we lodged; the roads were very wet, by reason of much rain that lately fell; here I observed very large oaks, magnolias^a, liquid-amber^a, near 100 foot high, and guilandina^b 30; these grew on a high bluff 8 or 10 foot above the surface of the river, which rises here 18 inches at high water, and in dry seasons is sometimes brackish, but in wet is drinkable to Cow-ford, which is 12 miles below this, and about 24 from its mouth.

20th. Set out for Robert Davis's, whose son the Governor had ordered to take us up to search for the head of the river St. John's; and having necessa-

* The Magnolia mentioned here among the trees 100 feet high, must be the Laurel-leaved Tulip-tree; and is the most elegant evergreen tree of North-America, both for its large milk-white odoriferous blossoms, and its shining Laurel shaped leaves. It will scarcely bear this climate without shelter in severe winters, unless near the southern sea-coast. This is the *Magnolia grandiflora*, Linn. Spec. p. 755.

^a Liquidambar styraciflua, Lin. Spec. 1418. American gum-storax-tree, with a maple-leaf, called also sweet-gum. — Monardes, in his history of Mexico, calls this tree by the name of liquid-amber, where he says it grows to a vast height; and that upon wounding its thick spongy bark, the balsam flows out, of the same scent with storax. See Casp. 4. Baub. Pin. p. 502. This tree grows not only in Mexico, but in the greatest part of North-America, from the Floridas to New-York; it yields its valuable balsam in proportion to the heat of the climate it grows in. Some excellent specimens of it have been collected in Georgia lately. It is found to be an admirable remedy for green wounds or bruises.

^b Guilandina dioica, Linn. Spec. 546. Bonduc or Nickar Nut. — We have two kinds of this genus in the West-India Islands, that are climbing plants; one of them is thorny, and bears pods with round grey seeds like marbles; the other has no thorns, and bears yellow seeds of the same size with the former, and are likewise used by children to play with. The one mentioned here, may be the same that Mons. du Hamel of Paris says grows wild in Canada, and is male and female in different plants. This tree is very hardy in respect to cold, and esteemed one of the rarest and most elegant hardy trees in the English gardens, growing erect with large doubly-pinnated leaves.

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rics provided, I, my son William, Mr. Yates, and Mr. Davis, embarked in a battoe ; Mr. Davis was not only to conduct us, but also to hunt venison for us, being a good hunter, and his Negro was to row and cook for us all, the Governor bearing our expences.

21st. Thermometer 74. P. M. The wind blew from the south right against us, so strong that we could not advance ; so staid at Mr. Davis's, who walked with us about his land, on which grew very large evergreen and water oaks, magnolia, liquid amber, red bay ^c 2 foot in diameter and 100 high, and some curious shrubs and plants we never observed before, with orange-trees amongst them, large *zanthoxylum* ^d, and purple-berried bay ^e.

22d. Thermometer 70, wind S. W. Cleared up, and we set out from Mr. Davis's ; but the wind turning south again and blowing hard against us, we rowed but a few miles, then landed and walked on shore, found a pretty evergreen ^f, which produces nuts or stones as big as acorns, and good to eat, and perhaps may be improved by culture to be near as good as almonds ; it bears plentifully, grows 8 or 10 foot high, the people call them wild limes, for this shrub much resembles that tree ; here grew chinquapins, the middling ground being generally 300 yards broad to the higher land, some little swamps bordering the small rivulets ; we encamped, saw a large allegator : The shores of the river are generally very shoal for above 100 miles, at 50 yards distance more or less from the banks, the lowish or middle ground between the swamp and pine land is generally sand mixed with black mould,

^c *Laurus Borbonia*, Linn. Spec. 529. Red-Bay.——This tree makes excellent timber for the cabinet-makers, and is very little inferior to mahogany ; some trees of this kind are so close-grained, that they are not to be distinguished from the best mahogany. They grow much larger near the sea-coast than in the inner parts, and will soon become a beneficial article of trade.

^d *Zanthoxylon*, *Clava Herculis*, Linn. Spec. 1455. Tooth-ach-tree.——Dr. Linnæus observes, that this is the same species that grows in Japon, and is called there *Seo* and *Sansjo*, or Japon-pepper, where they use it to season their food, as we do pepper and ginger. Vid. Kæmpfer's *Amoenitates*, p. 892. Besides this, the wood will afford a yellow dye.

^e The Purple-berried Bay, is called by Catesby a *Ligustrum* or Evergreen Privet ; but Dr. Solander, who has dissected many specimens of it, both with blossoms and fruit on them, says it is a species of olive : it is a beautiful evergreen-tree, with opposite lanceolated leaves, as long as those of the Red-bay.

^f This shrub is well worth enquiring after ; it is not known at present to the Botanists by this superficial description.

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formed from the rotting of the fallen leaves from the thick brush and tall trees, which generally grow plentifully in this kind of ground ; the palmettos likewise grow pretty plentifully between these middle grounds and pine lands.

23d. Cold morning, thermometer 42, wind N. W. Arrived and lodged at Picolata.

24th. Cold morning, thermometer 50, wind N. W. Blowed pretty fresh, but ceased towards night ; landed, and Mr. Davis shot a deer, and his Negro a turkey. I and my son walked in the woods to observe the soil and plants, with a man that went to fell some trees for honey : he felled one that contained only some yellow wasps, that had taken up their winter-quarters in a pine-tree ; we then walked to another hollow tree, wherein was a swarm of bees and some honey ; but both the white people and Indians often meet with such good success, as to find great quantities of honey and wax, even ten gallons, more or less, out of one tree ; the Indians eat much of it with their venison and four oranges, of which they cut off one end, then pour the honey into the pulp, and scoop both out as a relishing morsel. We then soon crossed the river to a point, where we lodged, and saw many rocks of congealed snail and muscle-shells ; here was a patch of good swamp, but the pine-lands approached near the river, and generally a perch or more of palmetto-ground, gently rising between the swamp and pine-land.

25th. Cool hazy morning, thermometer 46 in the open air, (in which all my thermometrical observations up the river are taken). After several miles, by choice swamps near the river, we landed at a point of high ground, which has been an ancient plantation of Indians or Spaniards ; many live oak-trees grew upon it near two foot diameter, and plenty of oranges ; the soil was sandy but pretty good ; we walked back from the river, the ground rising gradually from the swamp on the right-hand, where grow small evergreen-oaks, hiccory, chinquapins, and great magnolia, and in the swamp grows the swamp* or northern kind 18 inches diameter, and 60 foot high, liquid-amber

* This is the *Magnolia glauca* of Linnæus Sp. p. 755, and is the most valuable shrub that the gardeners import to England, both on the account of its standing the severest frost, and the delightful fragrance of its large white flowers ; there is a great demand for this shrub both at home and abroad.

amber and red-maple 3 foot diameter, elm, ash, and bays; the plants were most sorts of the northern ferns, *Saururus*^f, *Iris*^g, *Pancratium*^h, large long flowering *Convolvulus*ⁱ running 20 foot high, *Chenopodium*^k as high, and 4 inches diameter, *Pontederia*^l and *Dracontium*. Cloudy cool day, arrived at Squire Roll's, a bluff point 17 foot high, more or less, of which 5 foot is composed of snail and muscle-shells, mixed with black mould or rotten vegetables, intermixed with sand, 20 paces distant from the shore, and diminishing all the way to the yellow soil, on which grows large evergreen-oaks, evergreen shrub-oaks, where the pine-lands begin at 50 yards from the river: This shell-bluff is 300 yards more or less along the river's bank, gradually descending each way to a little swamp, round the head of which the pine-lands continue down the river a good way, and a little way up it; the bluff seems all soil and shells, but back near the Savanna's is found some clay; there is a small Spanish intrenchment on the bluff about 20 paces square, and pieces of Indian pots; the river is very deep near the bluff, though there is a great barr opposite to the town, and a very rich extensive swamp.

26th. Thermometer temperate, fine day, wind south. Excellent swamps on both sides of the river, some 2 or 3 miles deep; landed on Dunn's Island on a large snail shell ridge, the adjacent swamp excellent, and the middle ground rich for corn, turkeys and alligators plenty, saw a middling sized Indian tumulus, 20 yards diameter and 6 or 8 foot high; arrived soon at Spalding's Lower-store, on the west-side of the river, 37 miles from Picolata and 50 from Latchaway, an inland Indian town, near half the way pine-land and palmetto-ground: It is generally affirmed, that the soil at Latchaway is excellent, and produceth good corn and rich pasture; we encamped on a bluff in the pine-land, over-against a rich little island.

abroad. Here we find it grows to a large tree; which is a strong proof of the richness of the soil, as well as the excellency of the climate.

Saururus cernuus, Linn. Spec. 489. Lizard's-tail, a creeping plant with heart-shaped leaves.

^g *Iris*, in English, flower-de-luce.

^h *Pancratium Carolinianum*, Linn. Spec. 418. Carolina sea-daffodil.

ⁱ *Convolvulus*, in English, bindweed.

Chenopodium, in English, goose-foot.

^l *Pontederia*, a water-plant, with arrow-headed leaves, and a spike of blue flowers.

27th.

27th. Thermometer 50, fine morning. Set out from the Store, and about 5 miles above, landed on a high bluff, on the east-side of the river, at Johnson's Spring, a run of clear and sweet water, then travelled on foot along thick woody but loamy ground, looking rich on the surface by reason of the continual falling leaves, and by the constant evergreen shade rotting to soil, as the sun never shines on the ground strong enough to exhale their virtue before their dissolution, as under deciduous trees: We crossed several small rivulets of clear sweet water, and as many narrow moist swamps. 'Tis diverting to observe the monstrous grape-vines, 8 inches in diameter, running up the oaks 6 foot in diameter, swamp-magnolia 70 foot high strait, and a foot diameter, the great magnolia very large, liquid-amber, white swamp and live oaks, chinquapines^g and cluster-cherry^h all of an uncommon size, mixed with orange-trees, either full of fruit or scattered on the ground, where the sun can hardly shine for the green leaves at Christmas, and all in a mass of white or yellow soil 16 foot more or less above the surface of the river. We came down a steep hill 20 foot high and about 4 or 500 yards from the river, under the foot of which issued out a large fountain (big enough to turn a mill) of warm clear water of a very offensive taste, and smelt like bilge-water, or the washings of a gun-barrel; the sediment that adhered to the trees fallen therein, looked of a pale white or bluish cast, like milk and water mixed: We then crossed the swamp, and ascended and descended two hills and narrow swamps more; at the foot of the last issued out another warm spring of clear water like the other, but not so large. Then travelling alternately over hills and swamps, in all about 3 or 4 miles, came to a great cove, near a quarter of a mile from the river, out of the head of which arose a prodigious large fountain of clear water of loathsome

^g *Fagus Pumila*, Linn. Spec. 1416, Dwarf-chestnut called Chinquapin. — This tree grows about 10 or 12 feet high, and produces a great quantity of small round nuts, exceeding the common chestnuts greatly in the sweetness of their taste.

^h *Prunus Virginiana*, Linn. Spec. 677, and 3d *Padus* of Miller's Dictionary, American Bird-cherry or Cluster-cherry. — The wood of this tree is much esteemed by the Cabinet-makers; it preserves its leaves the longest of any of the deciduous trees. There is an evergreen sort of this Bird or Cluster-cherry, which grows about 30 feet high in S. Carolina, and from the beauty of its evergreen shining leaves is called the Mock-orange; the fruit of this steeped in brandy makes a fine flavoured ratafie. This is the 6th *Padus* of Miller's Dictionary.

taste, like the other two before-mentioned ; it directly formed a large deep creek 40 or 50 yards wide to the river, and deep enough for a large boat to swim loaded to its head, which boils up near 8 foot deep from under the shelly rocks ; 'tis full of large fish, as cats, garr, mullets, and several other kinds, and plenty of alligators :—Lodged at Johnson's Bluff, where for a mile the sandy pine-barren comes close or near the shore, and here grew plenty of what is called wild-limes, which shows that they will grow in poor soil though chiefly in rich.

28th. Set out from Johnson's Bluff ; foggy morning, wind N. E. thermometer 56. Came in a few miles to Mount Hope, at the entrance of a little lake, the east and south-side of which is pine-land, reaching to Johnson's Bluff, except a point of good swamp : Mount Hope is 50 yards long and 30 wide, near 20 foot high, composed all of fresh water snail and muscle-shells of various dimensions, the small ones drove into the large, and the broken and powdered ones into the interstices of both ; these are very fertile soils as far as the shells reach, and if not the only, yet the common planting grounds of the former Florida Indians, as is proved by the numerous pieces of broken Indian pots scattered all over all these shelly bluffs, and the vestiges of the corn hills still remaining, although many pretty large live oaks, red-cedars, and palms, now grow upon them : the west wind hath a long and full stroke against this mount, which perhaps raised it to that height : Saw many alligators, and killed one ; 'tis certain that both jaws open by a joint nearly alike to both : Here and near the river's bank grows the short-podded *gleditsia*, elm and black-ash, with most of the South-Carolina plants : Landed at Mount-Royal, where there are 50 acres of cleared old fields, fine oranges in the woods, and a fine spring issuing out above a mile from the river, making a stream big enough to turn a mill, on the back of which the pine-lands be-

Gleditsia, Linn. Spec. 1509, Three-thorn'd Acacia or Honey-locust. This tree with its elegant leaves grows up to a large size, and is said to make excellent timber. There is a very large one of this kind in the Bishop of London's garden at Fulham.—There is another species of this, with small thin oval pods, inclosing only one seed, called by Mr. Catesby Water-acacia, on account of its growing in moist places, which also comes to very good timber, and is mentioned here by Mr. Bartram.

gin :

gin : the bank and for 50 yards back is composed of sandy soil mixed with snail-shells, which for a foot or more thick is indurated to a soft rock, from which a fine south prospect opens to the great lake (the river here is above half a mile wide) near the entrance of which is a large island : we encamped on the east-side of the river opposite to the island, from whence we heard a bear roaring in the night ; we lay on a low bluff of snail-shells, amongst plenty of bitter-sweet oranges, next in goodness to the China, and here the woods are full of them ; we walked back over a dry kind of rich swamp full of shells mixed with black tenacious mud, under which is a white tenacious clay or marl, and in about 400 yards came to rising ground, pretty rich, and good corn-land, then to palmetto yet blackish soil, then to whitish, in which grew pines, then savannahs and ponds, which are interspersed generally in the pine-lands in most part of the southern provinces, together with the cypresses^k and bay-swamps, and have for the most part good feeding round their borders. This rich swamp terminated at the bend of the river where the pine-land reaches close to its banks ; so that the banks of this fine river are a continual alternate change of pine-land, bluffs, cypresses, swamps, marshes, and rich ash, and maple-swamps : the hammocks of live-oaks and palmettos^l are generally surrounded either with swamp or marsh : sometimes the deep rich swamps are 2 or 3 miles deep from the river to the pines, and reach along the river from one mile to 4, 5 or 6 at uncertain depths. These swamps are supposed to be the best rice-grounds, as neither the dry weather nor wet can hurt them so much as where there is no water in dry times, and in wet there is too much, for this is rarely overflowed but in spring-tides, and these will always keep them wet enough in the dryest seasons, especially below the great lake.

^k *Cupressus-disticha*, Linn. Spec. 1422. Deciduous Swamp, Cypress or Bald-cypress. — This most useful tree grows in great plenty in many of the swamps, and grows to such an amazing size, that boats or pettiaugres, capable of carrying a considerable burthen, are formed from the trunks of single trees. From the cones of this tree issues a most fragrant balsam like balsam of Tolu.

^l *Chamaerops humilis*, Linn. Spec. 1657. — Dwarf-palmetta. This Dwarf-palm grows on the sea-coast, from the capes of Florida up to Charles-Town in South-Carolina, and bears bunches of berries something larger than black currants. These contain round horny seeds which are of the size of small peas, and are covered with a thin pulp, which the Indians use as food. The leaves furnish them with thatch, and the soil where they grow is judged to be a middling kind between the sand and the swamps.

29th. Foggy morning; thermometer 52. Landed opposite to the mouth of the lake, which hath a full stroke with a south wind; the rock is all composed of snail and muscle-shells, hard enough to build with about 4 foot thick, and will split horizontally; some parts look like limestone, but whether for want of salt that abounds in sea-shells they will make such strong lime, I cannot say. Thermometer 72. P. M. Fish jumping continually; we encamped on a rocky point near a fine swamp of 25 acres, then a marsh of 20, near the end of an island on which some pines grew, then a great rich swamp round the cove; a very rainy night welcomed us.

30th. Rainy warm morning; thermometer 64. Set out and came to a point of piney land, but between it and the common fast ground is a great swamp, which continues a great part of the cove to the mouth of the river, except a few piney points: We landed at the neck, which is about 8 foot above the water, the upper strata was 2 or 3 foot of white sand covered with a thin coat of black-coloured with dissolved rotten leaves of the *kalmia*^m, *vaccinium*ⁿ, dwarf-myrtle^o, *andromeda*^p, palmetto, pines, and other evergreens, which though always green, yet are mostly shedding their former year's leaves; but next the water was a hard blackish sand like a soft stone, which though it will crumble betwixt the thumb and fingers, yet is almost impenetrable to water. Thermometer 72. P. M. Arrived at the head of the great lake 20 or more miles long, one and a half fathom deep, and 12 miles wide, as it is commonly reckoned: We landed on a fine shelly bluff 10 foot above the water; here grows red-cedar, live-oak, great palmetto, and good oranges, behind which is a high rich clear marsh producing grafs as high as

^m *Kalmia*, an elegant evergreen flowering shrub, bearing umbels of beautiful red flowers, now cultivated in the curious English gardens.

ⁿ *Vaccinium*. Cranberries, four times larger than the English Cranberries.

^o *Myrica cerifera*, Linn. Spec. 1453. Dwarf-myrtle.—This is a dwarf kind of the common Candleberry-myrtle, of such importance to the people of North-America, by supplying them with excellent wax, with only the trouble of collecting and boiling the berries, and when the water is cold taking off the wax.

^p *Andromeda*. There are many shrubs of this genus now cultivated for their beauty in the English gardens.

one's head, reaching to the pine-lands, and the cove of the great lake, which is supposed to be the extent of the real tides flowing ; but a strong north-wind will force the water of the lake many miles up the river, and the floods above coming down after great rains swell the river so as to overflow its banks and cover a vast body of reedy marsh.

31st. Cool morning ; thermometer 56. wind N. Set out, and in half a mile came to a middling creek 2 fathom deep, and from 50 to 100 yards wide, a rich island on the south-side hard enough for a horse to walk upon, and pretty full of wood, as maple and ash ; on the north side is a great extent of clear marsh, producing tall grass towards the head of the creek-branches on both sides in the marsh, many of which branches head in a great cypress swamp, in the pine-barrens and in the adjacent marshes : We rowed or set the batoe as far as she could swim, then came back to the river, which is lined on both sides with very rich hard swamps, 2 or 3 miles long, and near one broad more or less, producing good grass : It is remarkable that at the entrance of the river into the great lake there floats prodigious quantities of the pistia^a, which grows in great plenty most of the way from hence to the head of the river, and is continually driving down with the current, and great quantities lodged all along the extensive shores of this river and its islands, where it is entangled with a large species of water-numularia, persicaria, water-grass, and saxifrage, all which send down very long fibrous roots deep into the water by which they are nourished, growing all matted together in such a manner as to stop up the mouth of a large creek, so that a boat can hardly be pushed through them, though in 4 foot water ; these by storms are broke from their natural beds and float down the river in great patches, the roots striking deep, often touch the muddy bottom, and there anchor and fasten, and are ready to catch and entangle those that drive down upon them, and all together gather mud, by the daily accumulation of which they are formed into islands which are very numerous in this river, and are much enlarged by

^a Pistia Stratiotes, Linn. Spec. 1365. A Water-plant like the Water-soldier or Water-house-leek.—Sir Hans Sloane has given us a figure of this plant in his history of Jamaica, Vol. I. Tab. 2. Fig. 2. and says it is used for the same diseases as Plantain, either outwardly or inwardly, in juice, or the powder to a drachm.

these

these plants fixing on their shores. We now came to plenty of the tree palmetto, which the inhabitants call cabbage-tree*, and is much eaten both raw and boiled.

JANUARY the 1st, 1766. Hazy morning; thermometer 52. Set out from Spalding's Upper-store, about 50 miles above the Lower; the river here is 200 yards broad, and 9 foot deep in the channel; in long continued rains it hath been known to rise here 3 foot perpendicular; no tides from the sea reach here. Thermometer 72. P. M. Landed at a high shelly bluff, where thousands of orange-trees surrounded us, with red cedars and live-oaks, beyond which is a rich swamp and marsh, then pine-land; landed again at a point on the north-side of a great cove on the east lake where we lodged.

2d. White frost on the boat; thermometer 35. Set out to view the cove, which was surrounded with extensive marshes on the south-side, on the east and west with marshes, several hundred yards wide, then a narrow cypress-swamp joined to the common pine-land; we came again into the river 80 yards broad, which ran at first a south course, then bended east for several miles: We saw very extensive marshes on each side (with several short cypress-trees and maple-hammocks interspersed) until we came to a pond on the south, soon after which we landed and climbed up a tree, from which we had a prospect of the lake lying N. W. with an extensive marsh between: We observed many short willows, but the woody swamps are chiefly black and white ash, with red maple next the river, and generally a cypress-swamp interposed between the pine-lands and swamps of ash; we rowed several courses in sight of extensive marshes and swamps, 2, 3 or 4 miles wide more or less; the river was pretty high, 2 foot above the driest times, by reason of the great rains, yet it barely covered the swamps even in pretty low places, but indeed

* *Palma altissima, fructu pruniformi, &c.* Sloane Hist. Jamaica, Vol. II. p. 115, 116, &c. The palm called the Cabbage-tree—It appears from this Palm growing here, (which is a native of the West-Indies,) that many others of the West-India productions may also be cultivated. From the pith, with which this tree abounds, very good Sago has been made, and the long trunks of this palm serve very well for pipes to convey water under-ground, and when split in two make excellent long troughs or conduits to convey water from place to place above-ground.
there

there is little difference in their height for scores of miles, unless near the palmetto and pine-lands : We landed on a shelly bluff of 2 or three acres of four orange-trees full of fruit ; then rowing along the cypress-trees, which grew here next the river, a deep swamp interposed between the cypress and pine-lands ; we came to Clement's Bluff, where we encamped on a shelly bank 12 foot perpendicular ; the lower part next the water was an indurated shelly rock, the bluff is 300 yards long and one broad, more or less, beyond which it gradually declines back to a fine savannah, then to the pine lands, palmetto and shrubby oaks ; this is on the west-side of the river, as is the orange-grove ; thermometer 48. P. M.

3d. Clear cold morning ; thermometer 26. wind N. W. The ground was froze an inch thick on the banks : this was the fatal night that destroyed the lime, citron, and banana trees in Augustine, many curious evergreens up the river, that were near 20 years old, and in a flourishing state ; the young green shoots of the maple, elm, and pavia, with many flowering plants and shrubs never before hurt : Set out from Clement's Bluff, rowed by much rich swamp and marsh ; saw many elder-trees in flower (which grow in plenty close to the river next the water reeds) and many alligators, though so very cold that it had froze the great convolvulus and coreopsis, yet the great shrub after held out : The banks were in several places 2 or 3 foot high, shelly, and two rood broad ; then fell back to a fine rich grassy swamp, chiefly ash, elm, and cypress, but much more open than down the river below the great lake, with more frequent patches of marsh and high grass and small maples, willows, and cephalanthus thinly scattered upon them ; the higher banks with live and water-oaks. Landed about noon on the east-side on a bluff, 6 or 8 foot high, and 150 yards broad, but soon falls back to a cypress-swamp, at the upper end of which oaks and palmettos join the river, and a little back the pines begin.

4th. Pleasant morning ; thermometer 50. Set out from Whitlow's Bluff ; the river makes a great easy bend, and sends out a branch, then the course is from east to south, then S. E. the east banks being sandy 8 or 10 foot perpendicular, full of live and swamp-oaks, great magnolia, bay and liquidamber, but none of them very large ; then pine-land to the south bend, then lower ground,

ground, but on the west side very good swamp; it then takes a contrary bend to the south, then east, where there is a fine orange grove on each side of the river: at the corner of the south bend, the mouth of a lake appears, one mile wide and 2 or 3 long, which we entered; the course is near south and north, the east side is lined with a narrow cypress-swamp, and live-oaks alternately; the west side with pines, but above the marshes are very rich, full of water-reeds and elders on both sides the river, which is about 30 yards broad, and near three fathom deep. We landed where a sandy bluff joined the river; it produced live and water-oak, palms and bay; coasting the east-side, we soon came to a creek, up which we rowed a mile, in 4 and 6 foot water and 30 yards broad, of the colour of the sea, smelled like bilge water, tasting sweetish and loathsome, warm and very clear, but a whitish matter adhered to the fallen trees near the bottom; the spring-head is about 30 yards broad, and boils up from the bottom like a pot; plummed it, and found about five fathom water; multitudes of fish resort to its head, as very large garr, cats, and several other sorts; the alligators very numerous either on the shore or swimming on the surface of the water, and some on the bottom, so tame, or rather bold, as to allow us to row very near to them. What a surprizing fountain must it be, to furnish such a stream, and what a great space of ground must be taken up in the pine-lands, ponds, savannahs, and swamps, to support and maintain so constant a fountain, continually boiling right up from under the deep rocks, which undoubtedly continue under most part of the country at uncertain depths?

5th. Rainy morning; thermometer 54. Staid at Mount-joy. This mount is formed of snail and muscle-shells, and is 8 or 10 foot perpendicular, about 150 yards long and 20 broad, on the south-east side of the river, declining gradually at each end to an extensive stiff moistish marsh, producing a great quantity of tall grass, as thick as it can grow, of several hundred acres; a pine ridge appears at half a mile distance on the south-side. The mount and its declining sides and ends are full of live-oaks and large palm-trees; there are also some hammocks of live-oaks and myrtles interspersed in the adjacent marsh: opposite to the mount, on the other side of the river, is a large swamp or reedy marsh, and beyond it a cypress-swamp of great extent farther than the eye can reach.

6th.

6th. Clear morning; thermometer 38. Strong wind at N. W. Set out and soon saw a great body of very different swamp and marsh joining it, some dry, others middling moist, and some very wet, some reedy soil, some myrtle, oak, cypress, and lastly pine; then we came a little farther to tall water-reeds on both sides, and much elder grew next the river and close to the reeds, which last grew very thick close to the bank, and from 14 to 16 foot high; sometimes a narrow ridge, about a rood wide and a foot or two high, would run close to the river, on which grew oaks, hiccory, maple, and ash, the ground back being scarcely above the common flow of the river; but as we rowed higher up, the soil was in many places of an unknown depth, of tenacious rich mud, especially on the Indian side, which is generally higher than ours, and so stiff that cattle may walk upon it very safe, and bears choice grass, though full of tall trees, as hiccory, maple, water-oak, and ash: We rowed by a very large island on the east side and another on the west, the best I have seen in Florida; the river, for these two days, has run very crooked. Landed on a high rich shelly bluff, some good flat soil, but full of palms, and a little back the pine-lands begin: The last frost killed the young shoots of ash, hiccory, eupatorium, peanines, sun-flowers, and the tops of two lovely evergreen shrubs, one of which would have grown all winter, if the frost had not killed it; the bark was burst from the wood, but the lower part was not hurt, the other was full of flowers, green and ripe berries, yet the tender tops for half a foot were killed: 'Tis very common in this country for vegetables to produce at the same time flowers, green and ripe fruit; and if the tender shoots are by chance killed, they soon send out fresh ones; here is a native gourd or squash, which runs 20 foot up the trees, close to the river; the people eat them when young, but they are bitter when old, and about the size of a man's fist.

7th. Clear morning; thermometer 36. Set out from Cabbage-bluff, so called from the great number of palm or cabbage-trees growing there; after some miles rowing round several points of the compass, it being generally good reed-marsh and some cypress-swamps, we came to the middle lake, 1, 2, or 3 miles broad, and 8 long; its general course is S. E. at the N. E. end is high ground, producing oak, palm, myrtle, bay, and a fine new evergreen,

K

something

something like the purple-berried bay, but the leaves grow alternately, and the berries close to the stem, like myrtle; here is a pretty stream of sweet water, small enough to run through the bung-hole of a barrel, and at about 200 yards distance from it runs out a large stream of water, so warm as to support the thermometer at 71 in it, feels warm to a coolish hand, tastes more loathsome than the others beforementioned of the same kind, and may be smelt at some roods distant; hereabout is drove on shore, the most delicate crystalline sand I ever saw, except what is got on an island near our capes, though this is still finer: A few hundred yards from the last spring is another much like it in taste, but much larger, and near 30 yards broad, having three heads within 30 yards; the water is very loathsome and warm, but not so hot as one's blood: This differs from the other in having most of its surface covered with duck-meat; its banks full of shelly stone of the snail-shell kind, and running level with the river; the last had some fall; they are not above 200 yards from the lake. Set out and arrived at a rocky bluff, at the entrance of the head of the river, which was two or more miles wide, but gradually narrowed; this bluff is composed of snail and muscle-shells, indurated into hard rocks, which would break or split for building or burning into lime; but a bluff we landed at in the forenoon was more remarkable; for as the bank was perpendicular, we had a better opportunity of searching deeper; we saw about 3 foot above the water a mass of clustered sea-shells, as periwinkles, cockles, and clams, the very productions of the sea, and to what depth they went is unknown; but this I believe, that they reach all under this whole low country at uncertain depths, and support the superior soil, under which the prodigious sulphureous and saline fountains run, which are continually fed by the slow settling of rain-water.

8th. Clear fine morning; thermometer 44. Wind west by north. Rowed by much reedy ground, which is generally very wet, being often covered a foot more or less deep, after great rains; but the banks in many places are raised, a foot or more, by the trash floating down the river, which being drove on shore by the wind, there rots and is converted into stiff soil, on which the alligators love to bask in the sun-shine; every 20, 50, or 100 yards distance they are to be found: We encamped on a pleasant dry bank, but middling

middling soil, in a grove of live-oaks ; beyond which is a plain, and behind that a great inland pond or lake ; below where we lodged several inlets appeared to the northward, and above the river forked, and we rowed up the N. E. branch.

9th. Clear fine morning ; thermometer 44. We rowed along several long beaches generally east and N. E. then came to a high bluff of sand on the east-side, under which was a strata four foot thick, of a brownish soft sand stone, easily rubbed to sand between the thumb and fingers ; this was a point of pine-land, and on it grew great magnolia, sweet-bay, live-oak, palms, tall andromeda, vaccinium, red-cedar*, and an odd zanthoxylum ; here we found an Indian hunting cabin covered with palmetto-leaves ; we then rowed by a large marsh on the east side with a row of trees on the bank of hickory, ash, and live-oak ; then pine-land on our side for a long reach, and high banks and trees on the Indian side, after rowing several long reaches, generally poorish land, either near the river or at a distance from it, we came against a creek bearing northward, up which we rowed about a mile, where we saw some good swamps, and much long thick grass, some on pretty dry ground, but generally wet ; this creek led us up to a great cypress-swamp, in which it divided invisibly as the other branches did in several parts of the marsh ; we came back again to the river, up which we rowed 'till we came to a high bluff, where we encamped, and found 2 or 3 curious shrubs ; opposite to this bluff is a very extensive marsh, part of which is reed, and some very good rich dry soil ; here are some very large muscle-shells, of which this bluff is composed and enriched ; this has been a fine piece of planting-ground.

10th. Pleasant morning ; thermometer 50. The wolves howled, the first time I heard them in Florida ; here we found a great nest of a wood-rat, built of long pieces of dry sticks, near 4 foot high and 5 in diameter, all laid

* Juniperus Virginiana, Linn. Spec. 1471. Red-cedar, or Great Juniper.—'Tis necessary to distinguish this tree from the many that are called Cedars : It is of great use not only in the building of houses, but in ship-building : This is the wood used in making black lead pencils ; the berries put into spirits make excellent geneva, and from the tree distils a resin equal to gum-fandrach, very useful in making varnish.

confusedly together ; on stirring the sticks to observe their structure, a large rat ran out, and up a very high saplin with a young one hanging to its tail. Set out, and in half a mile came to a lake, and taking the north-east side, stretched eastward by a very extensive marsh, pretty low next the lake, but farther back good marsh, beyond which is a large cypress-swamp ; then the pine-lands begin ; we rowed to the east-side of the lake, near which is the mouth of a fine lagoon, a mile long and half as wide, bordered with a very large marsh extending to a large cypress-swamp ; we then coasted southward along a sandy beach, back of which is a dryish marsh, then came to a ridge of oaks about 20 roods wide more or less, behind which is a marsh reaching to the cypress-swamp, but more south the pine-lands appear ; at the south end of the oak-hammock runs eastward a large branch, which spreads into many branches in this large marsh, draining it and the adjacent cypress-swamps ; this marsh is large and looks rich, and I believe reacheth from the lake to the cypress-swamp and pine-land : We then turned round a point, and landed at another sandy beach and hammock, beyond which is a large plain or savannah, half a mile wide more or less to the pines, producing pretty good grass, low shrubs, oaks, and myrtles, the soil black on the surface and moist, though stiff enough to ride upon ; there is a small pond within the beach at the south-end, where ducks frequent ; this upper lake may be 4 or 5 miles in diameter, and perhaps more in length, and one fathom deep more or less ; but the river between this and the last is in many places two and a half fathoms, and in most places near 150 wide ; we lodged at a sandy beach, and it rained towards morning, but soon cleared up.

11th. Clear morning ; thermometer temperate. Set out and soon came into the river, which sends out numerous branches, that terminate in the east marsh, which is wonderfully intersected and divided with ponds and branches, and the river is also divided with numerous small and great islands of low marsh ; so that it is difficult to find the main river, but by the strong current : We came at last to a fine lake or rather three, the lowest of which is the biggest, being a mile diameter ; on the east-side the pine-lands appear about two miles distant most of the way more or less from the lake we lodged at ; but on the west side we could hardly see them, such a great body of marsh being between ; after noon we came to where the river was more entire, and some of its banks 3 foot high and 7 or 8 foot broad to the west marsh, the
river

river being 200 yards broad more or less, and one and a half fathom deep ; here several more large branches or lagoons branched eastward, and spread their numerous branches in the marshes ; we rowed several long beaches up the rivers, and at last to our great joy came to a bluff where we could set our feet on dry ground ; this being a very rich hammock of 6 acres of light black shelly soil (thermometer 58. P. M.) producing red-cedar, celtis¹, a curious zanthoxylum, and several others we never observed before, a few large orange-trees, and some young ones.

12th. Fine clear morning ; thermometer 44. Set out, and rowing S. E. soon came to a little lake which we headed, it seemed to be surrounded with marsh, some few pines appeared at a distance ; we turned back, and within a mile came into the main river, which turned various courses S. E. and north, but generally east by north ; it sends out on each side lagoons and branches that drain those extensive marshes. We came now to a large lake 5 or 6 miles long and near one wide, a long tongue of low marsh comes from the N. E. end, where a long hammock of oaks runs a south course ; we then rowed out of the lake, and between several islands, and came again into the main river, which runs in general an east and west course on a sandy bottom, shoaling gradually until the weeds and reeds stopped our battoe in such a manner, that it was impossible to push her any farther, though the water was 3 foot deep, and a small current against us, which we suppose was the draining of the extensive marshes which opened towards the south-east, how far beyond our view we could not determine ; the water-reeds grew here in the current as thick and close together as on the marsh, that is, as close as hemp ; yet the current forceth its way through, and also under the great patches of the pistia, the water persicaria, and other water-plants, which are all entangled together, covering many thousands of acres on St. John's and its branches, which heads in numerous rich swamps and marshes. We returned to the rich hammock where we lodged last night.

13th. Fine pleasant morning ; thermometer 54. Set out homeward from the rich hammock, the highest up the river we could land at. Thermometer

¹ Celtis, occidentalis, Linn. Spec. 1748. The Lote or Nettle-tree—This grows to be a very large tree, and the wood of it is much esteemed for being so tough and pliable ; it is reckoned the best wood for the shafts of all kinds of carriages.

79. P. M. about one o'clock we came to Round-lake, so we called it, it being one of the roundest I ever saw, almost surrounded with palmetto, pine, and scrub-oak ; the lake is 6 miles more or less in diameter, and generally all over the lake about 9 or 10 foot deep.

14th. Clear morning ; wind north. Set out from Coffee bluff, thermometer 52 ; a very long reach on the west side of the river, of piney, palmetto-ground, with scrub-oaks ; about noon we entered the west lake steering S. W. a ridge of pine-land runs on the east side and a marsh a quarter of a mile more or less between it and the lake, which I think is 8 or 10 miles from north to south, and 5 or 6 miles broad, the marsh is in many places a mile or two wide, and then comes to hammocks of oaks ; saw a mullet jump three times in a minute or two, which they generally do before they rest, so are called jumping-mullets ; on the south side of this lake is a great low cypress-swamp ; here to my great disappointment my thermometer was broke accidentally in striving to take a swarm of bees for their honey, which is practised both by the whites and Indians, who take great quantities in the cypress-swamps and pine-lands. We landed on the west side, which was low and rich for 100 yards back, rising gradually from the water to 4 or 5 foot perpendicular, then comes to a level, looking rich and black on the surface for an inch or two, then under it a fine sand to a great depth ; this level produceth red-bay, great magnolia, water and live-oaks, liquid amber, hiccory, and some oranges, but no large trees ; the lower rich ground produceth gledistia, pisshamins, cephalanthus, ash, cypress, and cornu femina : Our hunter killed a large he-bear supposed to weigh 400 pounds, was 7 foot long, cut 4 inches thick of fat on the side, its fore-paw 5 inches broad, his skin when stretched measured five foot and a half long, and 4 foot 10 inches in breadth, and yielded 15 or 16 gallons of clear oil ; two of us had never eat an ounce of bears meat before, but we found it to our surprize to be very mild and sweet, above all four-footed creatures, except venison ; although it was an old he-bear, his fat, though I loathed the sight of it at first, was incomparably milder than hogslard, and near as sweet as oil of olives ; it was not hunger that engaged us in its favour ; for we had a fat young buck and three turkeys fresh shot at the

same time, and some boiled with the bear, but we chose the last for its sweetness and good relish.

15. This morning was very warm and a little showery ; the muskatoes were troublesome last night, and this morning the flies blew our meat before 10 o'clock ; the ticks creeping and lizards running about our tent ; we staid here all day to barbacue our meat to serve us down the river, which would soon spoil if not preserved either by fire or salt, and of which last we had only enough to season our victuals with it ; rained fast, yet we walked to see several warm springs on the west-end of the lake, one of which was about 40 or 50 yards broad at the head, and held the same width for 300 yards down to the lake, without much current, the head being near even with the lake ; the water had a greenish cast, was very loathsome, and full of great gar-fish ; the other rises near half a mile from the lake, and hath a middling fall, very convenient to turn a mill, with a little dam having high banks on each side, and no floods can hurt it, as the mill may be near half a mile from the spring-head ; the worst is, the stream is full small ; there is a fine large cypress-swamp on each side close to the lake, the farthest of which is about half a mile ; this fine stream hath five heads, the banks are 10 or 15 foot perpendicular ; three of the heads boil up like a pot in a pure white sand, every minute it boils up above the surface of the common pond or basin, then the surrounding sand slips into the cavity, which presses down the spring until the water below is collected from the back under-ground stream so strong as to force the sand and water above the common surface, so that there is a continual periodical motion ; one of these springs was so warm, that although I was in a sweat, yet it seemed warm to my hand ; they are all of them warm, and of a loathsome taste, their sediment is white, and one may smell them at many yards distance.

16th. Very cold windy day, the lake being so rough that we could not stir ; so our hunters rendered the bear's oil, and stretched and dried the skin.

17. Fine still morning, and moderate. Set out and rowed up the lake ; past by a long point of marsh with a hammock of palms projecting out from near the west side of the lake, it being supposed to be an island from which is extended numerous little turfs of grass a great way farther into the lake, and

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in time may unite into a long point ; the depth is generally 7 foot, one place 8 : About 12 o'clock we came to the middle lake, and having in our going up the river viewed the north side and stinking springs, we now coasted the south-west or Indian side, which is surrounded with pine-barrens, interspersed with some cypresses, but generally poor sandy palmetto-ground, its length may be near 8 miles, and breadth 3 or 4 ; some small marsh points project a little way into it, it is about 10 feet deep, generally so is the river, its course east and west : A few miles below the lake we came to a fine rich low dry bluff 4 foot above the water ; it declined gradually to a fine marsh, near half a mile wide to the pine-lands, and a very extensive prospect to the Indian side over marshes and large swamps ; this is the finest piece of rich dry ground I observed since we left the head of the river ; it produced very good rich grass, palms and live oaks, the dry ground may be 8 roods wide and 40 long ; here we cut down three tall palm or cabbage-trees, and cut out the top bud, the white tender part, or the rudiments of the great leaves, which will be six or 7 foot long, when full grown, and the palmed part 4 in diameter ; this tender part will be three or 4 inches in diameter tapering near a foot, and cuts as white and tender as a turnip ; this they slice into a pot and stew with water, then, when almost tender, they pour some bears oil into it, and stew it a little longer, when it eats pleasant and much more mild than a cabbage : I never eat half so much cabbage at a time, and it agreed the best with me of any sauce I ever eat, either alone or with meat : Our hunters frequently eat it raw, and will live upon it several days ; the small palmetto or *chamærops* yields a small white bud no bigger than one's finger, which is eaten by men, bears, and horses, in case of great need ; this situation pleased me so much we called it Bartram's Bluff, and for an industrious planter with a few hands may be a pretty estate.

18th. Set out from Bartram's Bluff, a lovely fine morning and warm, stopped at Mount-joy for a little, and after several miles rowing came to a rich island, and took the left hand branch, down which we rowed several very crooked courses by some oak and pine-bluffs 5 or 6 foot high, excellent swamps, some cypress-trees, and much maple and ash being on both sides the river, which is two fathom deep, and, where we entered it, not above 20 yards

yards wide, but at the lower end twice as much ; it opened into the main river, a little below a high bluff of four oranges, and on the opposite side grow great quantities of what is called bitter sweets, which are next in goodness to the china ; we ate abundance of them, and found them very wholesome ; they last much longer than the sweet, which continue only to March.

The common current of the river here is not above two miles an hour, the uncommon rains last summer and part of the fall had raised it 2 foot or more higher than at present, and then the current no doubt ran swifter, and our pilot said he had known it to be 3 foot lower than now ; but suppose it only two, then there must be very little current.—This night was very warm, and the muskitoes troublesome, so that we smoaked our tent twice.

19th. Fine warm morning, birds singing, fish jumping, and turkies gobling. Set out, and presently came to a rich island, and ran between it and the Indian land, which is high and shelly, then lower, and very good on each side : We soon came into the river again, and rowed down it, till we came to a small branch on the east side, down which we rowed near half a mile, where we were entirely stopped by the pistia and persicaria growing all in a matt ; we then turned back, concluding it to run on the east side of an island, and to join the river below in some of its eastern lagoons to the river, down which we proceeded, and crossed the mouth of the east lake, and in an hour or two arrived at Spalding's Upper-store, where we staid all night, which was very warm, and the muskitoes very troublesome, as much so as any time since I left Charles-Town.

20th. Fine warm morning, but the south-west wind soon blew so hard, that we durst not venture to sail on the great lake, and our pilot wanted to dry his skins, so we staid here all day : but in the afternoon our host went over the river to shoot geese in the pine-land ponds, where they generally feed on the grafs growing there ; for they don't frequent the river, as we did not see one all the way, but multitudes of ducks : We landed on a bank of the river, a little above the place where the Indians swim their horses over, about 4 foot above the water ; the bank was composed of snail and muscle-shells, a strata of which, that was even or under the surface of the river, was converted into

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a concrete

a concrete as hard as a soft stone, as are most of the banks of the upper part of the river, which will burn to lime; we walked from the landing directly towards the pine-lands, at first over a rich level, then ascended a hill 6 feet perpendicular, formed all of shells mixed with a little black sandy mould, scarce enough to fill up the vacuities betwixt one shell and the other, although the small ones and broken pieces are drove as close together as possible; this composition lasted for near 200 yards, the shells diminishing gradually, and the fine sand appearing more and more, until no more shells were seen mixed with it; we still came to rising ground producing hickory, magnolia, bay and water-oak, then ground-oak, chamærops, then pine-land, dwarf-myrtle, kalmia, vaccinium, andromeda, small pines and long grass in the ponds, where the water was about knee-deep more or less, some of which contain from 1 to 10 acres; but some ponds are a mile or two big, more or less, some surrounded close with the adjacent pine-lands, and others with large savannahs at one or both sides, with a rivulet running out, and sometimes with a bay or cypress-swamp at the head. I was talking to our host that I could not find any good clay up the river; he said there was good white clay to be got on the west side of the river near his house; we went to look at it, and taking a hoe, I cut a piece of it up, which was a close compact mass of ground sea-shells a little above the surface of the water, the lower the more it looked and felt like clay. Quere, whether or not some sorts of clay are not formed out of sea-shells ground minutely to powder in a long series of time?

21st. Warm morning; set out from Spalding's Upper-store, wind south; it soon fell a raining, so that we encamped near the head of the great lake, at an orange grove on a bluff, where we gathered good bitter-sweets, the four ones lay scattered all about on the ground; there are two large and some small islands near the head of the great lake.

22d. Cold morning, and the wind so high, durst not venture on the lake it being very rough; so we staid here all night, and fired the marsh.

23d. Very cool, clear morning, wind N. W. Set out early, and coasted the west side of the lake, which was part sandy-beech, part marsh, some cypress-swamp,

press-swamp, and much oak banks, until we came to William's Spring, a creek of very clear warm water, 30 yards broad and 2 foot deep, the spring heads even with the river ; we landed near its mouth on a shelly-bluff amongst thousands of orange-trees, growing so thick that we could hardly pass between them for a quarter of a mile ; we walked near a mile up to two or three of its heads, and left one on the right hand which we did not search, because we could not get at it without a boat ; the land near the creek was a rich but narrow swamp 100 yards wide more or less, adjacent to which was a high shelly-bluff, on which the Indians had planted ; it is remarkable that the Florida Indians planted on all these shelly-bluffs, as being the most fertile parts, except the swamps and marshes, which are only proper for rice, and which the Indians never planted, as they would never take the pains of raising and shelling of it ; and the pine-lands not being suitable for corn by their method of cultivation ; but whether they planted the intermediate declining grounds I can't say, as large trees of cedar, celses, and palms, with many other kinds, grow on most of them : About noon we set out from this place, and coasted still on the west side, being very warm, and we still observed either oak-hammocks, or high pines ; about half way down the lake is a high bluff, the upper part white soil, the lower yellow, it produced spruce-pine and scrub-oaks ; we could not bring our boat near the shore, for this west side is very shoal most of the way, and the land mostly palmetto-ground, and some few cypress-swamps ; we encamped on a descending bank, on the back of which was scrub-oaks and dwarf-palmetto or *chamærops* ; here we cooked a fine mess of palm-cabbage.

24th. Moderate clear morning ; rowed early by a bank of pine-land for several miles and some cypress-swamps, then came to a large creek called Johnson's Spring, the west end of the lake about 80 yards near broad, but after it widens to about 200 ; the pine-land comes pretty close to its banks, then a narrow low marsh interposes, and after we rowed higher up we saw narrow cypress-swamps, loblolly-bays, and some few oak hammocks ; the creek abounds with fish, many stengrays near its mouth ; it is supposed to run 7 miles from its head to the lake, where the bar is about 18 inches deep, but the creek is 3, 4, and 5 foot up to the spring, which is nearly level with

the lake, and full of grafs and weeds at the bottom, many of which reach to the top of the water, and are a great obstruction to boats in going up, without they keep directly in the channel ; on the north side towards its head a large marsh brancheth out ; we came at last to where the cat-tails and bull-rushes grew so thick, that we could not force the battoe through them, though it was 100 yards broad, and 3 or 4 foot deep, so clear that we could see the muscle-shells on its shelly bottom in patches 3 or 4 foot diameter between the great patches of grafs and weeds ; we landed to search the head springs, and passed through an orange-grove and an old field of the Florida Indians, then came to the main springs, where a prodigious quantity of very clear warm brackish water boiled up between vast rocks of unknown depth, we could not reach the bottom by a very long pole ; this was on the north bank, about 12 foot high above the water, which spreads immediately 50 or 60 yards broad : We walked round the west end towards the south bank, where the bare flat rocks appeared above water, and a great stream boiled up of a salt and sourish taste, but not near so loathsome as several before-described, nor had it any bad smell, or whitish sediment as they ; we examined the composition of the rocks, and found some of them to be a concrete redish sand, some whitish mixed with clay, others a ferruginous irregular concrete, and many a combination of all these materials with sea-shells, clams, and cockles ; we found in the bank an ash-coloured tenacious earth, and a strata of yellow sand beneath ; near here my son found a lovely sweet tree*, with leaves like the sweet bay, which smelled like sassafras, and produce a very strange kind of seed-pod, but the seed was all shed, the severe frost had not hurt it ; some of them grew near 20 foot high, a charming bright evergreen aromatic : We saw near the spring numbers of large garr, cats, mullets, trouts, and several other kinds unknown to us, some in chace of others, which run into the grafs to hide them from their enemies ; in going down to the lake the fish were continually jumping ; we observed on the north end of the lake a hammock of oak. We then steered our course to Bryan's Island, on which there is some

* By the above description this may probably be the *Illicium anisatum* of Linn. Spec. 664. which is the Somo or Skimmi of Kæmpfer's *amœnitates*, p. 880.—This is the tree so much admired for its spicy quality by the Chinese and Japonese, and which has been discovered lately by William Clifton, Esq; Chief-Justice of West-Florida, to grow near Pensacola.

good land and rich swamp, with pretty much pine-land, it is supposed to contain about 1500 acres; here we encamped on a rocky rising ground, and found numbers of great and small oyster-shells, clams, perriwinkles, sea-muscles, and cockles, all cemented together with broken fragments, some ground as fine as coarse sand; they were all confusedly mixed and jumbled together as upon our sea-coast; first a strata of shells, then a strata of shells and fragments fill up the least cavity; it is remarkable that we never found any scallops to the south of Carolina, either on the coast or up in the country.

25th. Fine pleasant morning, although a little frost in the pine-lands; saw several flocks of pigeons flying about both yesterday and to-day: About noon we landed at Mount-Royal, and went to an Indian tumulus, which was about 100 yards in diameter, nearly round, and near 20 foot high, found some bones scattered on it, it must be very ancient, as live-oaks are growing upon it three foot in diameter; what a prodigious multitude of Indians must have laboured to raise it? to what height we can't say, as it must have settled much in such a number of years, and it is surprizing where they brought the sand from, and how, as they had nothing but baskets or bowls to carry it in; there seems to be a little hollow near the adjacent level on one side, though not likely to raise such a tumulus the 50th part of what it is, but directly north from the tumulus is a fine straight avenue about 60 yards broad, all the surface of which has been taken off, and thrown on each side, which makes a bank of about a rood wide and a foot high more or less, as the unevenness of the ground required, for the avenue is as level as a floor from bank to bank, and continues so for about three quarters of a mile to a pond of about 100 yards broad and 150 long N. and S. seemed to be an oblong square, and its banks 4 foot perpendicular, gradually sloping every way to the water, the depth of which we could not say, but do not imagine it deep, as the grass grows all over it; by its regularity it seems to be artificial; if so, perhaps the sand was carried from hence to raise the tumulus, as the one directly faces the other at each end of the avenue; on the south side of the tumulus I found a very large rattle snake sunning himself, I suppose this to be his winter-quarters; here had formerly been a large Indian town; I suppose there is 50 acres of planting ground cleared and of a middling soil, a good part of which is mixed.

mixed with small shells ; no doubt this large tumulus was their burying-place or sepulchre : Whether the Florida Indians buried the bones after the flesh was rotted off them, as the present southern Indians do, I can't say : We then rowed down the river, and encamped at Spalding's Lower-store, opposite to a small rich island on the west side of the river.

26th. Fine morning, warm and pleasant ; observed a plum-tree in full blossom ; here I saw many pine-trees, that had lately been cut down, and though 18 inches in diameter, they were the greatest part sap ; I counted their years growth, and found some to be about 50, some 40, and others 30, but one large tree two foot in diameter, had only four inches of sap, and I counted 130 years growth or red circles ; here was a well dug on declining ground, the water, which was sweet, rose to within 5 or 6 foot of the surface of the ground, at the distance of 100 yards from the river, and perhaps eight foot above it.

We rowed four miles down the river to Dunn's Island, which Lord Adam Gordon has petitioned for ; it contains about 1500 acres more or less of good swamp, and some hammock. We then took the right-hand creek up to Dunn's lake, observing much good swamp on both sides, the creek being generally 150 yards broad, and two fathom deep ; on the west side there is two points of low land, which comes close to the creek : About noon we entered the lake, whose general course is N. W. and S. E. and about 15 miles long, the upper end turns towards the east : We encamped on the north side in a cypress-swamp, part of it marshy, its bank next the lake was a foot above the water, but back was lower until the pine-lands began within half a mile ; this north side is generally a narrow cypress-swamp to the pines, widening a little in some branches.

27th. Fine pleasant morning. Set out early, and landed on a small island of near 100 acres, part cypress-swamp, part marsh, and piney palmetto, a very rotten black soil, mixed with white sand : We landed on a low bluff of muscle and snail-shells, generally broken and powdered by the surges of the lake ; here, as well as in most other places on any high dry bank on the

the river or its branches where the soil is good, are found fragments of old Indian pots and orange-trees, which clearly demonstrates, that the Florida Indians inhabited every fertile spot on St. John's river, lakes and branches; now the ash, maple, elm, and pavia, are all green, and shot out several inches, the cypress is in full bloom, the water-oak begins to look yellow, and the sweet-gum just casting its leaves: the north end of this island is pine and palmetto, then high swamp; the east end low. Leaving the island, we encamped where we did the night before, on a bed of long tree-moss, to preserve us from the very low damp ground, which is very unpleasant and dangerous.

28th. Fine morning; set down Dunn's lake, the west side of which is generally pine-land, but at the head westward are some very good swamps, which hold generally down the river; squire Roll claims all the north or north-east side from his town to the head of the lake; from the lower end of which 'tis reckoned 13 miles to the river, thence down to Roll's 4; on the west side of the river is a very rich extensive marsh, which colonel Middleton claims; about one o'clock we arrived at Charlottenburgh, Roll's town, and staid all night.

29th. Fine clear morning and warm day, like the first of our May; walked all about the town and adjacent woods: near the banks of the river are the remains of an old Spanish entrenchment, 12 yards one way and 14 the other, about 5 foot high; on three sides being open to the river; the town is half a mile long, with half a score of scattered houses in it, built of round logs; the streets are laid out at right angles, one of them is 100 foot broad, the other 60; the land back is all pine and scrub-oaks; the bluff continues half a mile down the river, which is 7 fathom deep near the town, but towards the opposite shore there is a sand-bar, it is not above half a mile wide here, but soon widens above.

30th. Fine morning; set out from Roll's, whose steward, Mr. Banks, was very kind to us, and seems to be a sober, careful, and agreeable man; we rowed 8 miles, crossing the river to Gray's creek, which is 60 yards wide, and two fathom and a half deep; we went about 7 miles up it; its general
course

course is west by south, and generally pretty straight, good high swamps on each side, though on the north side the pines come near, especially near the upper part, where the ground is poor; we could not pass near so far, as we had depth of water, by reason of many old trees fallen across the creek at 7 foot deep and 10 or 12 yards broad; great floods certainly come down it, for there were great banks of sand 4 foot, more or less high, drove on its banks; here is very good grass growing in the pine-woods knee high. We rowed down again, crossed the river, and encamped at a great orange-grove, where thousands of orange-trees grow as thick as possible, and full of sour and bitter-sweet fruits; this is about four miles by land from Mr. Roll's, though near 8 by water; he claims it in his 20,000 acres; some of it is good swamp, but mostly pine-land.

31st. Fine morning: rowed for several miles on the west side of the river, having crossed it, and observed several good cypress-swamps and oak-hammocks alternately mixed with pine-land, which comes close to the river's bank, in other places they come close to the swamps, which are here from 50 yards deep to 500 or more; we then crossed the river to the east side, along which we rowed, the pine-lands still approaching near the banks most of the way, some few cypress and maple-trees grow near the shore; we rowed into a great cove, on the north side of which is a fine rich high swamp; we encamped at a point on the east side on middling high ground sloping towards the river, back of which is palmetto-ground and black soil well timbered with live-oaks.

February the first. Walked in a fine rich open marsh, then palmetto and myrtles join the pine-lands, in which a little spring heads the swamp, which may be a quarter of a mile deep: We got to Picolata by noon, the north wind being against us as the day before; we then rowed to a low bluff of middling land, well timbered with live and water-oak, great magnolia and sweet-gum; here was also a rich swamp of ash and maple; but generally below Roll's town there is no such large bodies of swamps as above, especially on the east side, though at the mouth of Picolata creek, about 6 miles below the fort, there is a pretty large swamp.

2d. Walked

2d. Walked this morning to observe the soil, the wind north, and cool, landed at Popa fort, a small shallow entrenchment almost filled up with length of time ; 'tis 20 yards square ; and as many from the river ; a few yards back of it there is another about twice as big ; here is a grove of orange-trees, and many acres of large live-oaks, 2 or 3 foot in diameter, adjacent to which is a shallow but good swamp with some cypress-trees ; nearly opposite to this on the west side branches out a creek running 3 or 4 miles, on which grow large red cedars ; and about two miles below it, branches out White or Black River, it bears both names, the last by the English ; 'tis navigable above 20 miles, some say 30, 'tis reckoned 20 to Caldwell's store, our present boundary with the Creek Indians ; this river or creek is about 100 yards wide and 3 fathom deep, more or less, its general course is west ; we landed at a pine-bluff, 300 yards long and 10 foot perpendicular, more or less, the upper surface of which, for a foot or more deep, is white sand, then 2 foot of an ash-coloured clay mixed with red and yellow sand, then 5 foot of a fine yellow sand, (no coarse sand is to be found in any of the southern provinces) then a tenacious ash-coloured clay to an unknown depth, reaching below the surface of the creek ; there is a pretty spring runs into the creek just above the bluff ; we lodged near its mouth.

3d. Set out early, cool morning, with white frost, wind N. W. Saw many high bluffs, near 20 foot high, but poor and sandy ; some have a cypress-swamp behind them, others are level with the adjacent pine-land, in which is plenty of rank grass knee-high ; on one or both sides of these bluffs frequently runs out a small spring : We called at the Store, (this was a fine warm day) above which, the land is still higher, and produces live-oak, red and purple-berried bay, alder, maple, chinquapins, elm, linden, water-oak, myrtle, dogwood, vaccinium, palmetto, hamamelis^w, and cedar ; here the creek divides into two branches nearly equal ; we took the left-hand one, which had generally high banks on each side, raised by the floods 12 or more feet with white sand ; in many places the level pine-lands come close to its banks ; in others again, there is a pond or cypress-swamp just behind the bank, in which very large trees grow in the pine-lands ; there are a number

^w Hamamelis, a shrub with leaves like the common hazel, propagated for the sake of variety by the English gardeners.

of shallow ponds, on the borders of which there is much green grass all the winter : We rowed up this branch, until the great trees, that had fallen across the creek, stopped our passage, and there the creeks were 4 or 5 foot deep and 10 yards broad, on a sandy bottom ; we returned to the Store, where we lodged, and before day it began to rain.

4th. Warm rainy morning ; it cleared up, and we set out up the north-branch, the banks of which were 12 or 13 foot high most of the way, more or less, in many places rocks under the surface 3 or 4 foot, reaching below the surface of the water to an unknown depth in some places ; the first strata is sandy, then a gritty rock for a foot, then a softish rock full of sea-shells, of the cockle and perriwinkle kind, mixed close with broken or ground shells to a solid mass for two foot, more or less, then a deep mass of soft, in some places, hard rocks : We rowed up this branch until we were stopped by trees, as in the other, and here the creek was 10 yards broad and a fathom deep ; we walked up it a good way farther, but found little alteration, except in its being fuller of old trees ; the traders say, it heads in a great lake 5 miles long and 3 broad ; there are some middling good cypress-swamps near its banks, the floods had been so high up this branch, as to flow over its banks, and the first rising of the pine-lands ; they had not been quite so high in the other branch ; near the Store was a deep gut with a middling stream of water, which headed about a quarter of a mile up in the pine-lands, and gushed out over the rocks, where it had worn a deep narrow gully 8 or 10 foot deep, the rocks reached to within 4 foot, more or less of the surface, and to an unknown depth, all of ground or broken sea-shells ; in some places there is a strata of tenacious clay, either above, under, or without this shelly strata.

5th. Set out from the Store down the river, near the mouth of which are some good cypress-swamps, and up it generally very large ones ; about 4 miles up, there is a very extensive one, reaching a mile and a half north-eastward, to a place called the Doctor's lake, narrowing gradually to the mouth of the creek and upwards, till a pine-bluff interposes ; opposite to this is another extensive swamp, upwards of 1000 acres ; pretty near the mouth of the creek there are two small islands ; a large point of land projects out from the main

on the east side of the river opposite to the mouth of Doctor's lake, which runs near south partly parallel with the river: We arrived this evening at Mr. Davis's.

6th. Set out for the Doctor's lake, which is half a mile or more broad, and 6 or 7 long; at the head of which is a large creek, about 100 or more yards broad, and near a mile and a half long, heading in a rich swamp with 3 or 4 branches, which drain it: On the west side there is a hammock of oak, hiccory, magnolia, and hornbeam, and a fine spring of clear water a most big enough to turn a mill, boiling up from under the main body of the country rocks, as all the great fountains do; the soil looks rich.

7th. Cloudy morning; we crossed a branch, landed, and walked over a rich swamp 2 or 300 yards wide, then came to cutting-grass, then palmetto for 100 yards, then to a pine-savannah of a vast extent, moist, and producing a great burthen of pretty good grass, knee deep; we returned and rowed down the lake and river about 14 miles to Davis's, against a strong wind, rain, and thunder, all wet and cold.

8th. Fine clear morning, wind west. Set out after noon, having dried our cloaths and blankets, rowed to Greenwood's, and encamped by a grove of orange-trees; from hence to the Cow-ford; the banks are generally high, with very large oak, bay, and great magnolia, the soil, though sandy, is pretty good.

9th. A fine morning; rowed down to the Cattle-ford, below which is a marsh on both sides, then pines, then another pretty large marsh, and so on alternately high oak-banks, open marshes, and flat pine-woods and savannahs; back there is pretty high sand-hills, and some ponds; came to Williams's point and creek, the water is pretty deep at the point, out of which issue several little springs: We then soon came to Forbes's bluff, where grows a good sort of rush to bottom chairs with, or make matts, much better than the common bull-rush or the three-square ones; it rained in the evening, but cleared up about midnight; this bluff is very productive, being covered with shells of oysters, which the Florida Indians fed much upon near the sea-coast.

10th. Pleasant morning, wind blowing strong at N. W. Breakfasted on a mess of tanners, a species of eddo*, which being boiled with meat is good food; the roots are 4 inches in diameter, and 5 long, wholesome, and of great increase, when planted in moistish rich ground, but will do in middling soil. Set out, and sailed through the narrow passage, not being much above a quarter of a mile wide, running between two large marshes a little above a high bluff, called Oglethorpe's or Hessler's bluff, (an exceeding convenient situation for the building of a fort to secure the inhabitants up the river in time of war, 'tis about 8 miles from the bar and sea) in this narrow passage 'tis very reasonable to suppose, that the flood-tide must run very rapid, as it has 200 miles up this broad river to flow, in many places 2 miles wide, and many branches and large lakes to fill; we landed about 2 miles above the bar, and walked along a fine sandy beach of regular descent, quite to the sea low-water-mark, to an inlet, up which we walked to one Hazard's, a good kind of a man, and one of the best planters in Florida; he is settled on a large rich island, great part of which is surrounded with marsh, which on one side is very extensive.

11th. North-west wind very high; could not venture on the river, so walked all over the island; observing his improvements; and the curiosities, both natural and artificial, of the Indians and Spaniards; of the former, were several middling tumulus's or sepulchres of the Florida Indians, with numerous heaps of oyster-shells, which one may reasonably suppose were many hundred years in collecting by as many thousands of Indians, also variety of old broken Indian pots. 'Tis very demonstrable that the Spaniards had a fine settlement here, as there still remain their cedar posts on each side their fine straight avenues, pieces of hewn live-oaks, and great trees girdled round to kill them, which are now very sound, though above 60 years since they were cut. This rich island, though it appears sandy on the surface, yet hath a clay bottom, above which in some places there is a dark-coloured strata of indurated sand-rock.

* Tanners, a species of Eddo's.—This is a species of Arum or Wake Robin.—There are many sorts of them cultivated in the West-Indies, and in Carolina, for the sake of the roots as well as the leaves, which latter is called Indian-Kale; for further information consult Sir Hans Sloane, Hist. Jam. Vol. I. p. 166 to 170; Brown's Hist. Jam. and Miller's Dictionary, under the title Arum.

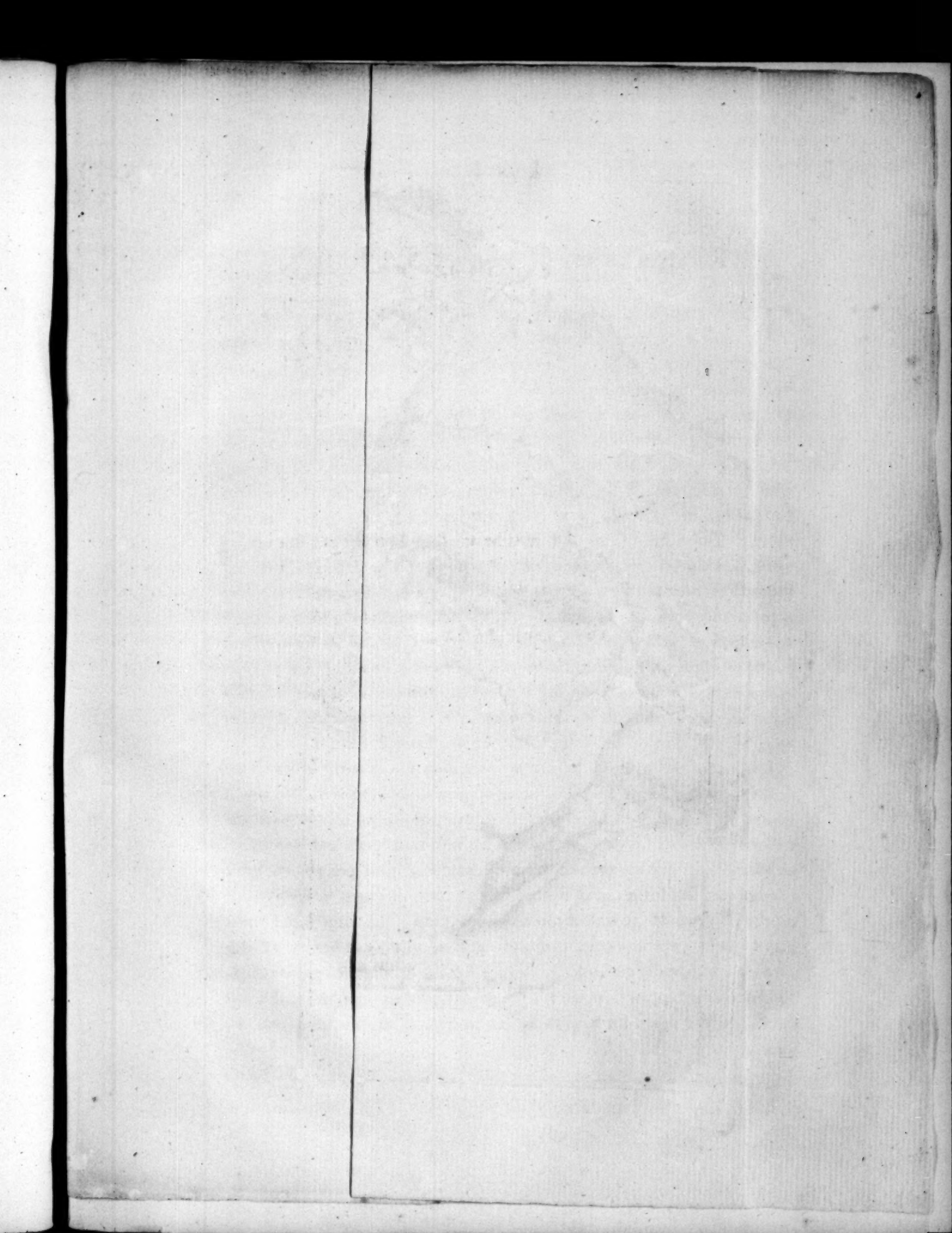
12th. Cool morning, with a little white frost, yet a pleasant day. Set out early, rowing up the river again ; on the south side, near the bar, there are some very high sand-hills, a little above which is the mouth of Don Pablo's creek, which runs towards the head of the north river, that empties itself near St. Augustine ; 'tis reckoned about 5 or 6 miles between them, where, if a good passage was cut, and could be kept open, there would be a fine communication from St. John's river to the town, without the hazard of going to sea, and crossing two troublesome bars : Four miles from the mouth of the river, on the north side, branches out a creek, called the Sisters, from two hammocks that are much alike ; between them is a passage to Charles-Town for schooners ; the large ships can come within 15 miles of St. John's : a little above this, there is another little creek and passage to Charles-Town ; below which is an island of marsh. Past by Trout-creek, 300 yards broad, salt to its head, up which there is good pine-woods, and fine range for cattle, with some cypress-swamps ; opposite to it, on the south side of the river, is Sandy-point, full of high pines, and back very large ponds. We arrived at Mr. Davis's near night, and next morning set out for Augustine.

As the lower part of the river and its branches are known, 'tis needless to be more particular in describing them.

REMARKS on the River ST. JOHN'S.

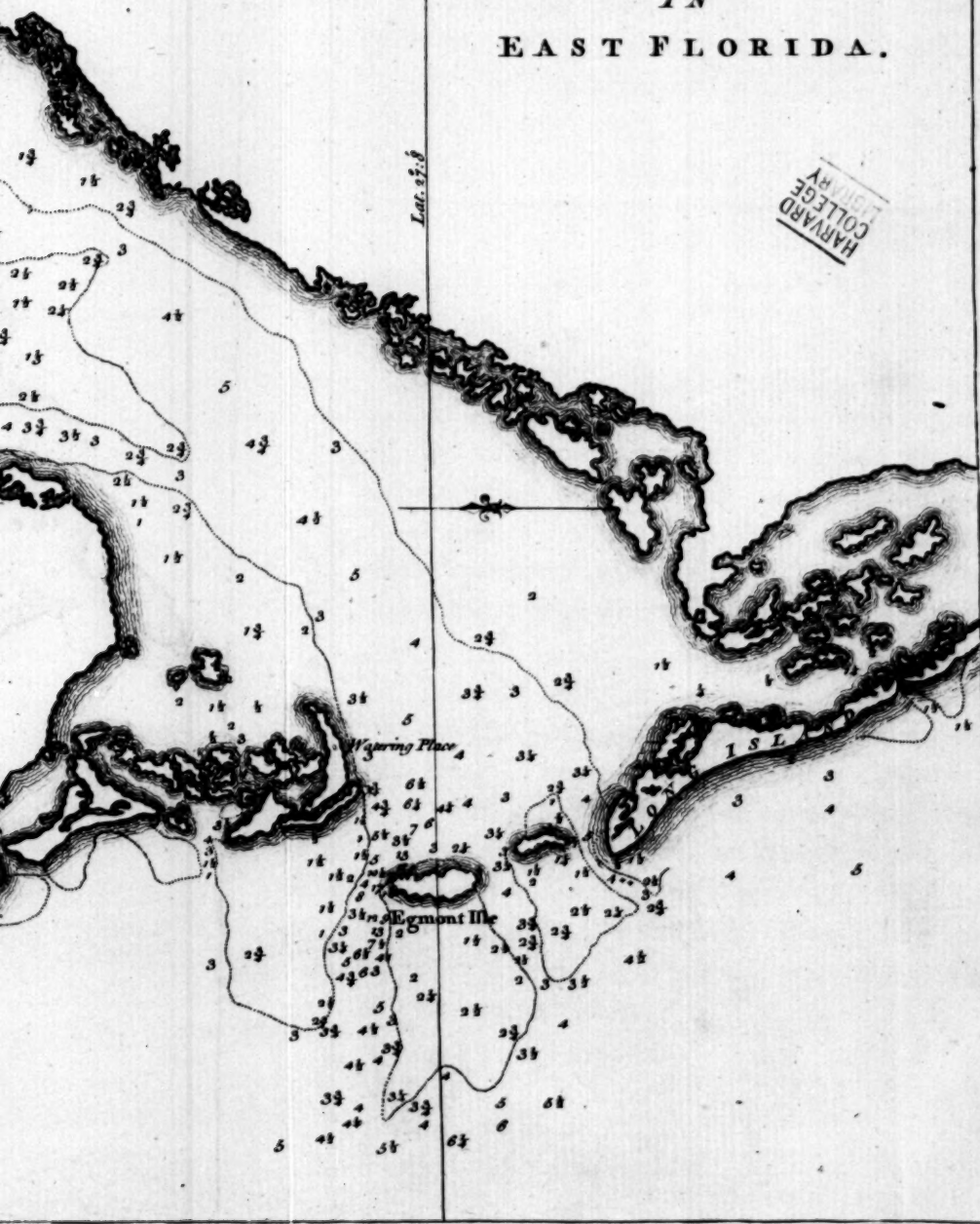
THE pine-lands, as they are here called, contain a variety of soil, according to their different situations; some very large shallow ponds, quite dry in dry seasons, but generally abounding with tall grass; some very extensive savannahs, producing rank good grass, as thick as it can grow, where great numbers of cattle may be raised; very lofty pines, and in many places cypress-swamps, the last of which are allowed to be excellent rice-grounds, if clay-bottoms are within a few feet, and a good lasting stream of water runs through them, to drain and flow them at pleasure; the bay swamps are frequently found in the pine-lands, being the general heads of the cypress-branches: This pine-land, by the help of dung and cultivation, will produce good corn, potatoes and cotton; the large palmetto declining ground, between the pines and swamps, are moist and seem rich, and perhaps will suit both corn and indigo; but the shelly bluffs seem to be the most fertile spots of high ground, and the Indians chief plantations for corn and pumpkins: That which is called hammocky ground is generally full of large evergreen and water-oaks, mixed with red-bay and magnolia, and in many places the great palmetto or cabbage-tree; this is generally reckoned proper both for corn, cotton, and indigo: but the marshes and swamps (so very extensive upon the river St. John's) are exceeding rich, the last of which are full of large ash, maple, and elm, being of an unknown depth of rich mud; so are the marshes on the upper part of the river, which are covered with water-canes and reeds, as the lower marshes are with rank grass and weeds; all of which when they are drained dry, will produce, in all probability, great crops of corn and indigo, and without much or any draining, a fine increase of rice; so would the vast cypress-swamps; and of the large cypress-trees may be made great quantities of choice shingles, pales, and boards, of long duration; the prodigious large live-oaks will make excellent strong and durable timbers for shippings, as the tall straight long-leaved pine for masts and yards, and the others for turpentine, tar, and pitch, as also for plank and scantlings.

St. John's

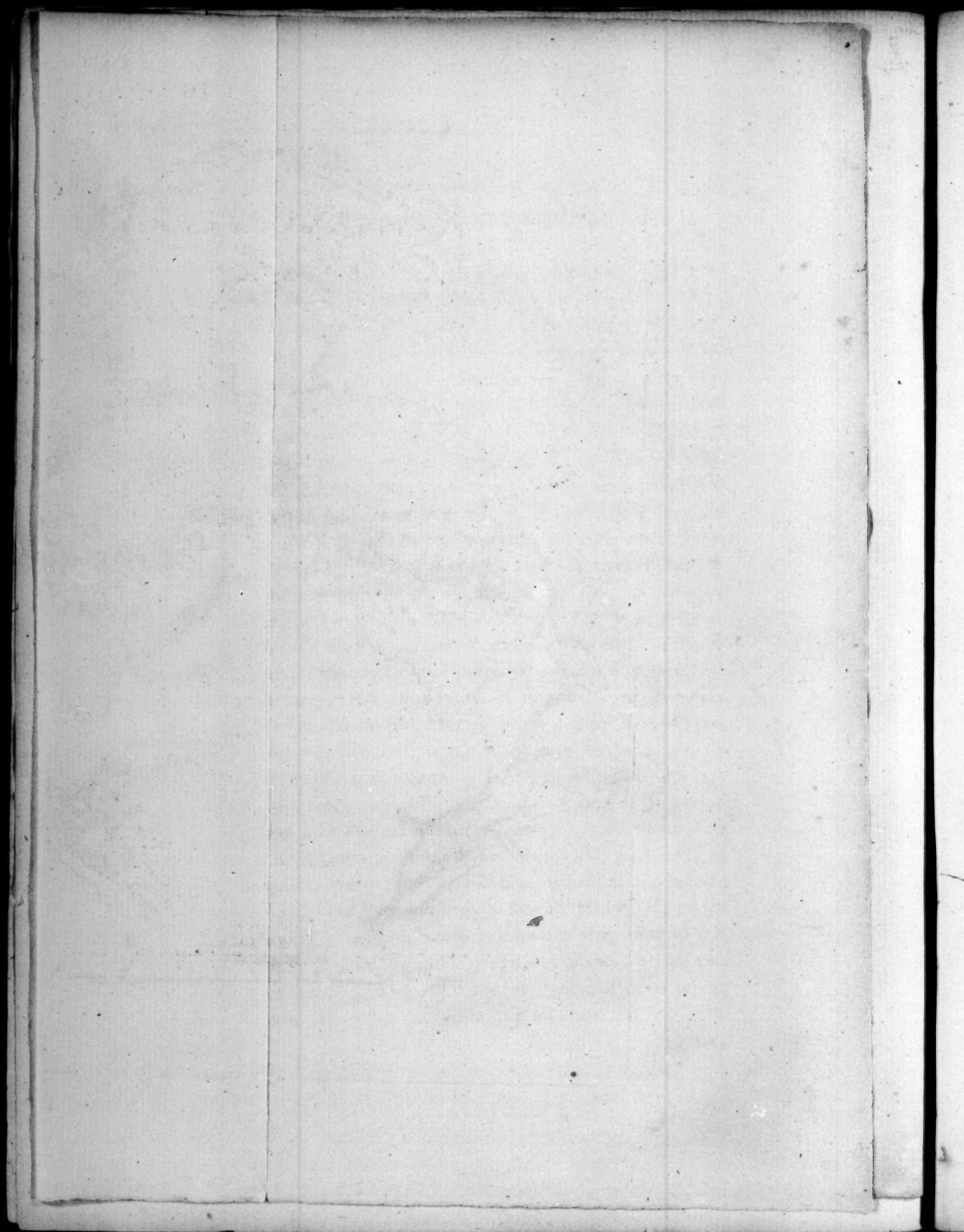




The BAY of
ESPIRITU SANTO,
IN
EAST FLORIDA.



T. Jeffers Esq.



St. John's river, by its near affinity to the sea, is well replenished with variety of excellent fish, as bass, sea-trout, sheep-head, drums, mullets, cats, garr, sturgeon, stingrays; and near its mouth, oysters, crabs, and shrimps, sharks and porpoises, which doubtless will continue, as there is such a great extent of its waters in so many great lakes, ponds, and branches, continuing both deep and broad to near its head; its shores, being generally shoal, are full of grass and weeds, and afford a fine asylum to the young fry against their devouring enemies.

A Description of the Bay of ESPIRITU SANTO.

THE bay of Espiritu Santo is situated on the west coast of this province, in 27th degree of north latitude. It has a good harbour, but the land all about that coast is very low, and cannot be seen off a ship's deck, when in 7 fathom water. Several low sandy islands and marshes, covered with mangrove bushes, lie before the main land. Here is the greatest quantity of fish in the summer time I ever saw, to be caught with a sayne, enough to load a ship, if the climate would admit of curing them, even in a few days.

Here is stone proper for building, on this coast. Also great plenty of deer, and some wild cattle; but the main land near the coast is in general sandy and barren; and is, so far as I have seen, much like that in North-Carolina, a pine barren, intermixed in many places with vallies, capable of improvement for stock of all sorts. The bay and islands before the main land, seemed to be the resort of many kinds of sea fowl and fish, that at proper seasons you may load your vessel with eggs, young birds, or fish; of fish the bass and mullet are the chief; of birds, all the species of sea gulls, cranes, curlews, pelicans, and sundry others whose names I know not.

F I N I S .

ERRATUM.

Page 5 of the Journal, (Note g) instead of *Tagus Pumila*, read *Fagus Pumila*.

DIRECTIONS to the BINDER.

The Map of East-Florida to be placed facing the Title Page.

The Plan of St. Augustine facing page 7 of The Description of East Florida.

The Plan of the Bay of Espiritu Santo facing page 35 of the Journal.